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FEDERAL WATER QUALITY ADMINISTRATION BRIEFING BOOK

Federal Water Quality Administration
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FEDERAL WATER QUALITY ADMINISTRATION

BRIEFING BOOK

CLEAN
WATER

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PREFACE

The Federal Water Quality Administration derives its basic statutory authority from the Federal Water Pollution Control Act, as amended. The Agency is organized along functional lines. It carries out its mission, under a Commissioner and Associate Commissioner, through five major offices, having responsibility for administration, research and development, enforcement and standards compliance, environmental and program planning, and operations, and through nine Regional Offices. The Regional Offices are located in Boston, Charlottesville, Atlanta, Cincinnati, Chicago, Kansas City, Dallas, San Francisco, and Portland. FWQA's Regions are organized along hydrological lines to facilitate water quality management.

In addition to its Headquarters and Regional Offices, FWQA conducts its work at 46 field stations and laboratories located in the field. The major laboratories are located in Ada, Oklahoma; Athens, Georgia; Cincinnati, Ohio; College, Alaska; Corvallis, Oregon; Duluth, Minnesota; Narragansett, Rhode Island; and Metuchen, New Jersey.

The bulk of FWQA's activities is in the field. Of a present staff of 2,781 permanent and temporary employees, 672 are located in Headquarters and 2,109 are assigned to Regional Offices, laboratories, and field stations.

FWQA's budget authority for Fiscal Year 1971 is $1,121,000, including $1,000,000 for grants for municipal waste treatment facilities.

Details on these and other aspects of the Agency are given in the following Sections of this document.

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I. MISSION, AUTHORITY & PROPOSED LEGISLATION

The Federal Water Quality Administration derives its basic public mandate from policies contained in the Federal Water Pollution Control Act, as amended, and the National Environmental Policy Act of 1969. Consistent with these policies FWQA's mission is:

1. To prevent further pollution of the Nation's water resources by preserving existing high quality waters for future generations and maintaining achieved levels of water quality for presently defined uses.

2. To reverse the present degradation of the Nation's waters and to enhance the value of water and related resources by abating pollution and by managing waste-bearing waters for beneficial reuse.

3. To contribute to a coordinated and long-range national program for the preservation of a balanced environment.

The Federal Water Pollution Control Act, establishes a policy to:

> ... preserve and protect the primary responsibilities and rights of the States in preventing and controlling water pollution, to support and aid technical research relating to the prevention and control of water pollution and to provide Federal

technical services and financial aid to State and interstate agencies and to municipalities in connection with the prevention and control of water pollution.

Pursuant to these policy declarations FWQA carries out a national program, through nine regional offices, five laboratories and other field offices, to guide, coordinate and assist the States, interstate agencies, local agencies, and other Federal agencies in cleaning up water pollution and enhancing water quality.

AUTHORITIES

The basic statutory authority of FWQA is contained in the Federal Water Pollution Control Act, as amended. The basic Act, passed in 1956, was strengthened by subsequent amendments in 1961, 1965, and 1966, and, most recently, by the Water Quality Improvement Act of 1970.

A number of other authorities also have important roles in water pollution control. These authorities include: The Refuse Act of 1899, which prohibits the discharge to water of any refuse, excepting municipal sewage, without a permit from the Army Corps of Engineers; the National Environmental Policy Act of 1969, which recognizes the right of each person to enjoy a healthful environment and his responsibility to contribute to the preservation of that environment; Executive Order 11507, entitled "Prevention, Control and Abatement of Air and Water Pollution at Federal facilities;" Executive Order 11514, entitled "Protection and Enhancement of Environmental Quality"; and Executive Order 11523, entitled "Establishment of the National Industrial Pollution Control Council."

Summaries of these authorities follow.

The Federal Water Pollution Control Act

Section 1

Section 1 declares that the purpose of the Act is to enhance the quality and the value of the nation's water resources, and recognizes the primary role of the States in this regard.

Section 2

Section 2 created the Federal Water Quality Administration (formerly the Federal Water Pollution Control Administration) in 1965.

Section 3

Section 3 provides for the development by the Administrator of comprehensive programs for water pollution control and for grants to State agencies to cover not to exceed 50% of the administrative expenses of an agency capable of developing a comprehensive plan for water pollution control.

Section 4

Gives advance Congressional consent for States to enter into agreements or compacts for water pollution control, but requires consent before such compacts are binding.

Section 5

Authorizes EPA to carry out research and authorizes grants for research and training projects. Grants are authorized for research

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* Asterisked sections were added by the Water Quality Improvement Act of 1970.

into water pollution control generally, water quality in the Great Lakes, vessel wastes, and estuarine pollution. Grants are authorized for training programs to develop specialists in water pollution control fields. Research fellowships are also authorized. Contracts may also be employed for this purpose.

Section 6

Authorizes research and demonstration grants and contracts for:

A) Advanced waste treatment

B) Industrial pollution control

C) Stormwater and combined sewer problems.

Section 7

Authorizes the Administrator to provide grants to defray the costs of carrying out a State's water pollution control plan. In order to qualify for such grants, States are required to develop a plan for the prevention and control of water pollution acceptable to the Administrator. Grant funds are allotted to the States according to a fixed formula.

Section 8

Authorizes grants to States, municipalities or intermunicipal or interstate agencies for the construction of waste treatment works. Grants are provided on a matching basis, ordinarily, with the State providing 25% and the Federal government up to 55%. Grant applications must be approved by the States and will not be awarded unless in conformity with plans and programs developed under Sections 3 and 7. The sum of $1-billion for such grants has been appropriated for the current fiscal year.

Section 9

Establishes the Water Pollution Control Advisory Board to advise the Administrator on matters of policy. Members are presidentially appointed.

Section 10

Provides for the establishment by the States and approval by the Administrator of water quality standards for interstate waters including criteria and a plan of implementation. Where discharges into interstate waters that violate water quality standards occur, the Administrator may, on 180 days' notice, institute court action to abate the pollution. In any action brought under this Section, courts may review the water quality standards and all facts relevant to the issue and may enter any judgment required by the public interest and the equities of the case.

A second enforcement procedure is provided. The Administrator, when requested by the Governor of any State in cases of interstate pollution, or the Secretary of State in the case of pollution affecting foreign countries, may call an enforcement conference of State water pollution control agencies. That conference considers matters necessary to abate the pollution and the Administrator prepares a summary of the conference including recommendations for necessary State action. After 180 days following the date of such recommendations, the Administrator may call a hearing before a five-member Board to consider evidence and testimony from all concerned parties regarding the alleged pollution. Following the hearing, the hearing board provides recommendations for necessary action to all dischargers. Six months following the issuance of such recommendations. if necessary, the Administrator may institute court action. Courts are required to consider the economic feasibility of pollution abatement and may enter such judgment as public interest and the equities of the case require.

Section 11* -- Directs Administrator to identify harmful quantities of oil. Prohibits the discharge into navigable waters of harmful quantities of oil. Vessels navigating in navigable waters are required to maintain evidence of financial responsibility to cover liability to the Government of $100 per ton or $14-million, whichever is less, for costs of clean-up. Onshore and offshore facilities are also liable up to $8-million for removal costs. This section also authorizes the establishment of the national contingency plan to deal with oil spills.

Section 12* -- Directs Administrator to identify hazardous substances.

Authorizes the President to arrange for the removal of hazardous substances discharged into navigable waters.

Section 13*

Authorizes the Administrator to promulgate standards of performance for marine sanitation devices and requires the Coast Guard to implement those standards with regulations. This section becomes effective two years after the regulations are promulgated for new vessels and five years after that date for existing vessels.

Section 14*

Section 14 authorizes the Administrator to enter into agreements with States or interstate agencies on a matching basis to demonstrate methods for controlling acid mine drainage and other mine pollution. States are required to pay at least 25% of the cost of the project.

Section 15*

Section 15 authorizes the Administrator to enter into agreements with any State or public agency to demonstrate pollution control in the Great Lakes. States must pay at least 25% of the costs.

Sections 16 through 19*

Sections 16 through 19 authorize the Administrator to award grants, contracts and scholarships for the purpose of training waste treatment plant operators.

Section 20*

Section 20 authorizes the Administrator to enter into agreements with the State of Alaska to demonstrate methods to provide central water facilities and to control water pollution in Alaskan villages.

Section 21*

Section 21(a) provides for cooperation by all Federal agencies in insuring compliance with water quality standards. Section 21(b) requires any applicant for a Federal license or permit to conduct an activity which may result in a discharge into navigable waters to obtain a certification from the State, interstate agency or the Administrator that the activity will not violate water quality standards.

Section 22*

Section 22 authorizes regulations to carry out the Act, and provides for awards for outstanding achievements in waste treatment and pollution abatement.

Section 23

Section 23 includes definitions of terms used in the Act.

Section 24

Section 24 saves existing authorities under other Federal laws relating to water pollution, in particular the Refuse Act.

Section 25

Section 25 is a severability clause.

Section 26

Section 26 requires a yearly report to Congress on the cost of carrying out the purposes of the Act.

Section 27

Section 27 provides that the Act may be cited as the Federal Water Pollution Control Act.

The National Environmental Policy Act of 1969

Title 1
Section 2

Declaration of a national policy to encourage productive and enjoyable harmony between man and his environment and to promote efforts which will prevent or eliminate damage to the environment.

Section 101

Recognizes that each person should enjoy a healthful environment and has a responsibility to contribute to the preservation and enhancement of that environment.

Section 102

Authorizes and directs the Federal government to interpret and administer policies, regulations and public laws in accordance with the policies set forth in the Act. Requires the submission of environmental impact statements for every major Federal action significantly affecting the quality of the human environment. Requires comment by Federal agencies having jurisdiction by law or special expertise with respect to any environmental impact involved.

Section 103

Directs all Federal agencies to review their present statutory authority, regulations and policies to determine whether there are any deficiencies in them which prohibit full compliance with the purposes of the Act and to propose to the President remedies for these deficiencies.

Section 104

Other statutory obligations of Federal agencies to protect the environment are not affected by this Act.

Section 105

The Act is supplementary to existing authorizations of Federal agencies.

Title II

Creates the Council on Environmental Quality and sets forth its duties and functions.

Pertinent Sections of the River and Harbor Act of 1899 (The Refuse Act)

Section 13

Forbids the discharge of any refuse matter of any kind or description into any navigable water or into any tributary of navigable water in the United States without a permit from the Army Corps of Engineers. Municipal sewage is specifically exempted by the phrase "other than that flowing from streets and sewers and passing therefrom in a liquid state."

Section 16

Provides penalities of not less than $500 and not more than $2,500 or not less than 30 days or more than 1 year imprisonment or both for violations of Section 12. Provides that one half of the fine be paid to persons giving information which leads to conviction.

Executive Orders Concerning Water Pollution Control

Executive Order 11507 -- Prevention, Control and Abatement of Air and Water Pollution at Federal Facilities

Authorizes the Secretaries of Interior in the area of water and the Secretary of Health, Education, and Welfare in air pollution control to establish performance standards, including effluent standards, for Federal installations. Agency heads are required to ensure that in operating existing facilities, and in planning new facilities, such performance standards are met. All Federal water resources projects are required to be presented to the Secretary of the Interior for a determination of the effect on water quality and for recommendations.

Executive Order 11514 -- Protection and Enhancement of Environmental Quality

Implements the National Environmental Policy Act of 1969. All agencies are required to carry out their activities so as to enhance environmental quality. This requirement includes consultation with State, Federal and local agencies, timely environmental review of plans for Federal activities including hearings where appropriate, and a review by each agency of the adequacy of its legislative authority to carry out the purposes of the Order and a report thereon to the Council on Environmental Quality.

Executive Order 11523 -- Establishment of the National Industrial Pollution Control Council

Establishes the National Industrial Pollution Control Council composed of representatives of business and industry appointed by the Secretary of Commerce to advise the President and the Chairman of the Council on Environmental Quality on industrial programs relating to Environmental Quality.

THE ADMINISTRATION'S 1970 LEGISLATIVE PROPOSALS*

The Administration's legislative proposals on water pollution control were outlined in the President's Message on Environmental Quality and are fully seen in the proposals Secretary Hickel forwarded to the Congress on February 11.

These proposals relate to three major areas of concern:

Enforcement - H.R. 15905
State Programs - H. R. 15906
Financing - H. R. 15904

I. Enforcement:

The Administration's proposal relating to water pollution abatement would provide for some radical departures from existing legislation and would provide for substantial new authority for State governments as well as for the Federal Government.

A. Water Quality Standards - Discharge Requirements

Specifically, water quality standards which we now have as a result of the Water Quality Act of 1965, followed by a concerted Federal-State effort, and which are in force and effect in every State, would be strengthened by the addition of "Discharge Requirements," and by extending the applicability of such strengthened water quality standards to all navigable as well as interstate waters.

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*Some of these proposals will probably be resubmitted to the 92nd Congress. Others are being reevaluated, and some new proposals may be included.

The new "discharge requirements" would be applicable to individual sources of effluent discharges. They would relate to the water quality criteria.

These discharge requirements would be established by the States, just as the original water quality standards were established by the States.

If the Secretary of the Interior determines that such requirements meet Federal criteria, they would be enforceable as Federal standards as well as State standards.

B. Navigable Waters - Jurisdiction

Water quality standards, including discharge requirements would be established not only for interstate waters, as has been the practice to date, but would be established for navigable intrastate waters, coastal waters, waters of the contiguous zone and, under certain circumstances, ocean waters beyond the contiguous zone.

The extension of the water quality standards program in terms of further and more specific requirements and in terms of waters covered is a logical progression building upon the water quality criteria and the plans of the implementation we already have.

C. Enforcement Conference

Another significant change would be in the enforcement conference technique of pollution abatement. Under existing law an enforcement conference may not be convened in the absence of an interstate pollution effect unless the Governor of the State concerned requests it. Under these circumstances the availability of an enforcement conference depended on the geographic accidents of pollution crossing interstate boundaries. The Administration's proposal would remove the distinction between interstate and intrastate waters and between interstate and intrastate pollution effect.

The enforcement conference would be available in any case where the Secretary of the Interior believes water quality standards are being violated, or if the health or welfare of persons are being endangered.

D. Remedial Measures Direct to Polluters

At the conclusion of an enforcement conference, remedial measures could be required directly of individual polluters. The hearing board phase of enforcement would be eliminated, and the Government could proceed directly to court enforcement. This will eliminate a minimum of six months plus time required for preparation and conduct of hearing board stage.

Fines of up to $10,000 per day of violation of water quality standards or enforcement conference recommendations would be authorized.

E. Investigatory Authority

Substantial investigatory authorities would be provided to permit the Secretary to subpoena records and witnesses to enter and inspect plants and installations and to require testimony.

F. States' Role

All of this enforcement authority is intended as a back-up for enforcement activity of the States, who continue with the primary responsibility in this regard.

II. State Programs

The Administration's second legislative proposal follows logically from that last point -- it is to provide additional financial assistance to State and interstate programs for water pollution control. The additional Federal funds would be available for specific and substantial improvements in the State program, such as the adoption of a mandatory permit system, or an effective State review of engineering designs and specifications for waste treatment facility projects.

A. Funding

Authorizations would be increased from the present $10 million to $30 million in FY 75.

B. Acceptable Criteria

In addition States will be required to devise acceptable criteria for determining the priority of waste treatment construction projects in a State.

III. Construction Grants

A. $10 Billion

The Administration has proposed a program for funding the cost of waste treatment facility construction. It calls for a Federal contribution of $4 billion in a construction program of $10 billion.

B. Grant Agreement

The Federal Government would enter "grant agreements" with municipalities at the rate of $1 billion a year for four years. Pursuant to these agreements, the Federal Government would be obliged to appropriate funds to satisfy obligation under these grant agreements, just as the Federal Government must satisfy any other of its debt obligations.

It is intended to eliminate the gap between funds authorized and funds appropriated. It is based on the determination that $10 billion's worth of waste treatment facilities is needed to meet the Nation's domestic waste treatment needs as of 1974.

C. Allocation Formula

A new allocation formula whereby funds are distributed among the States would provide as follows:

(1) 60% on the basis of population

(2) 20% on the basis of State "matching"

(3) 20% on the basis of the Administrator's discretion to deal with severe pollution problems. (The President later indicated that this 20% would be used for "reimburseables")

IV. Environmental Financing Authority

The Administration's water pollution control legislative proposals would be supplemented by a Treasury Department proposal to establish an Environmental Financing Authority. EFA would have authority to buy municipal waste treatment bonds of those municipalities who are unable to sell their bonds on the market at a favorable rate. EFA, in turn, would sell its own bonds at a higher interest rate than the municipality's it has purchased.

STRATEGY AND GOALS

During the summer and fall of 1970, FWQA carried out an intense agency-wide effort to more clearly establish and define its objectives, goals and strategy. The results of this effort are contained in the November 1970 National Plan and Strategy for Water Quality: Program Summary.*

This document outlines a broad national strategy directed toward achieving adequate water quality throughout the Nation during the decade of the 70's. This strategy defines broad management and planning techniques to effectively direct the programs of the FWQA and, within the broader framework of a State/Municipal/Federal partnership, to assure timely solution of specific water quality problems on a priority basis. The plan sets forth a comprehensive set of objectives and goals and presents two alternative levels of effort, optimum and proposed, with appropriate recognition of their relative impacts and effectiveness toward achieving the proposed national and regional water quality objectives.

The overall objective of a National Clean Water Program for the decade of the seventies is to restore the Nation's water environment to a healthy and stable state and to provide adequate and protected water resources for the needs and the future well-being of the Nation's population.

The specific objectives of the proposed five-year program ending in 1976 are to establish water quality standards, including effluent requirements to be met in accordance with individual time schedules, for the waters of the Nation, including navigable, coastal and ground water, and to achieve compliance with the specified effluent requirements for all industrial and municipal discharges.

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*The referenced document is currently under internal review within FWQA and EPA and has no official status.

The long-range 1980 objective of the proposed program is to manage and control all other sources of pollution.

Two major programs, the Water Quality Standards and River Basin Planning, cut across all aspects of pollution control and prevention. These two programs, combined with the President's $10 billion municipal waste construction grant program and an effective management program, provide the main thrust to achieve water quality. In addition, they provide the mechanism for focusing the resources of research, development and demonstration, construction, enforcement, technical assistance, and manpower and training on the major pollution problem areas.

The major problem areas for which goals have been established are: municipal wastes, industrial wastes, agricultural wastes, combined and stormwater sewer wastes, oil and hazardous materials, and mining wastes. The specific major goals that FWQA is addressing in each of these problem areas are as follows.

Municipal Wastes - nationwide compliance with water quality standards in 1976 by:

1) carrying out the President's $10 billion construction grants program through 1974.

2) promoting and assisting the training of adequate numbers of treatment plant operators.

3) promoting and assisting the development of river basin, metropolitan and regional water quality management plans to secure cost-effective compliance with water quality standards and maximum effectiveness of the Federal-assistance investment.

4) developing and demonstrating the new and improved waste treatment technology needed to achieve compliance with water quality standards.

5) pursuing necessary enforcement actions.

Industrial Wastes - nationwide compliance with water quality standards in 1976 by:

1) pursuing necessary enforcement actions to achieve compliance with water quality standards.

2) establishing and enforcing effluent standards (proposed legislation) and waste discharge permits (under Refuse Act of 1899) to accomplish the foregoing.

3) developing and demonstrating that amount of waste treatment and control technology sufficient to demonstrate the feasibility of compliance with water quality standards by the industrial sector.

Agricultural Wastes - bring animal feedlots and pesticide usage into compliance with water quality standards by 1976 and to make substantive progress in controlling nutrient-runoff, salinity, sediment and other types of agricultural pollution by:

1) developing and demonstrating various control technologies for animal feedlots, pesticides and other agricultural pollutants.

2) assisting the States in studying the problems and in developing and implementing regulations and control programs.

3) encouraging and assisting the Department of Agriculture and other Federal agencies in conducting control programs.

Combined and Stormwater Sewer Wastes - bring 50 percent of these waste discharges into compliance with water quality standards in 1976 by:

1) developing and demonstrating treatment and control technology.

2) providing construction grants assistance to local agencies (legislation is required for this).

Oil and Hazardous Materials - achieving a capability to control and cleanup accidental discharges and the capability to prevent avoidable discharges by or before 1976 by:

1) enforcing jointly with the Coast Guard, regulations covering the prevention, control and cleanup of discharges.

2) providing, jointly with the Coast Guard, Federal control and cleanup response where the responsible party fails to act under regulations.

3) developing and demonstrating, jointly with the Coast Guard, control and cleanup technology.

Mining Wastes - bring operating mines into compliance with water quality standards and develop the technology and programs to control water pollution from non-operating mines by 1976 by:

1) developing and demonstrating control technology.

2) assisting the States in enforcing compliance by active mines.

3) assisting the Federal agencies having jurisdiction in regulating operating mines on Federal lands.

4) proposing legislation for a Federal land and environmental reclamation program to address the non-operating mines problem.

The proposed programs provide an articulated approach to the management of the principal waste types. FWQA is developing technologies and institutional procedures for abating and preventing pollution in each of the national problem areas. These programs are tailored to identify technical, administrative, legislative, and financial requirement for each problem area, and develop a schedule of interim objectives leading to the control of pollution from each source.

The overall strategy is to assure that the necessary resources and technology for controlling water quality are available in accordance with an established program containing a firm time schedule. The overall strategy encompasses six major strategic action concepts. These concepts include:

1 - Timephasing of three major construction programs (Municipal, Other Urban, and Mining Wastes) to avoid cumulative economic impact at Federal, State, and community levels.

2 - The establishment of priorities to direct resources initially into those geographic areas with maximum population impact and into pollution source areas in which corrective technology is available.

3 - Critical timephasing for acquisition of scientific information in advance of major corrective and construction programs and the deferral of low priority needs.

4 - The application of cost-effective concepts to all program elements to assure maximum utilization of new technologies and institutional opportunities.

5 - The development and recommendation of supportive legislation in such areas as water resources development, agricultural assistance programs, and abandoned mine restoration.

6 - The involvement of the citizen, old and young, to the maximum extent possible in programs to reclaim, preserve and protect the environment.

MAJOR PROGRAMS

Summary of FWQA National Programs

FWQA's program has three major elements: regulatory activities; assistance activities; and research and development activities. The principal features of these three program activities are as follows:

A. Regulatory

1. Approving State/Federal water quality standards or setting Federal standards where the States fail to act on interstate waters.

2. Assisting the States or taking direct Federal action where authorized (1) to enforce interstate water quality standards, (2) to abate pollution in navigable waters, and (3) to abate pollution affecting shellfish marketed in interstate commerce.

3. Participating with the Coast Guard in establishing and enforcing regulation for the prevention, control and cleanup of oil pollution.

4. Setting performance standards for marine sanitation devices and assisting the Coast Guard in enforcing these standards.

5. Assisting the States and the Federal licensing and permitting agencies in conditioning and administering Federal licenses and permits to prevent water pollution.

6. Assisting the Corps of Engineers and the Department of Justice in prosecuting water polluters under the Refuse Act of 1899.

B. Assistance

1. Providing 30 to 55 percent grant assistance (currently, $1 billion annually) to local agencies for the construction of waste treatment facilities.

2. Providing up to 70 percent grant assistance (currently, $10 million annually) to State and interstate water pollution control agencies to help support their programs.

3. Providing up to 50 percent grant assistance (currently, $4.7 million annually) to local planning agencies for the development of water quality management plans.

4. Technical assistance to other Federal agencies to assist them in complying with Executive Orders 11507 and 11514 pertaining to the control of water pollution from Federal installations and activities.

5. Providing technical assistance, including field investigations, to State agencies and others on a wide variety of complex water pollution problems.

6. Providing grant, and scholarship assistance for the training of professional personnel for the water pollution control field and personnel for the operation of municipal waste treatment plants.

C. Research, Development and Demonstration

1. Developing scientific knowledge on the effects of pollutants on water quality and water uses for use in the establishment of water quality standards.

2. Developing and demonstrating waste treatment and control technology for municipal, industrial, agricultural, mining and other wastes, for the ultimate disposal of wastes and for the renovation of wastewaters for reuse.

3. Developing and demonstrating methods to restore polluted lakes and to otherwise abate pollution.

Water Quality Standards and Enforcement

President Nixon in his environmental message has declared that "strict standards and strict enforcement are necessary--not only to assure compliance, but also in fairness to those who have voluntarily assumed the often costly burden while their competitors have not". Such effective nationwide enforcement requires a complementary State-Federal regulatory effort.

From the initiation of the Federal water pollution control program, the Congress has recognized the basic role of the States in implementing and enforcing water pollution control regulations. The Federal Act, however, asserts broad jurisdiction for the application of Federal regulatory authority to back up the States and to assure effective pollution control. Over the years, this Federal regulatory role has been expanded and strengthened.

In accordance with the Federal Water Pollution Control Act, as amended, action to abate pollution of interstate or navigable waters which endangers the health or welfare of persons may be taken at State request or on Federal initiative. The Governor's request is required in cases of intrastate pollution of such waters. However, action may be taken on Federal initiative to abate pollution, whether inter- or intrastate, of such waters, which impairs the marketing in interstate commerce of shellfish or shellfish products.

Action to abate international pollution may be taken under certain circumstances.

Two abatement procedures are provided in the Act. A three-stage enforcement procedure is set out in the law--conference, public hearing, court action--the succeeding stage to be reached only if adequate progress is not made at the previous stage. In a case of violation of water quality standards, direct court action may be sought 180 days from the date of notification of violation: the 180-day period is to be used for obtaining voluntary compliance if at all possible. The effectiveness of the 180-day notice, where pollutional effects are intrastate, is governed by Section 10(g)2. In such circumstances, the consent of the Governor must be obtained before legal action may be initated after the 180 days have expired and satisfactory progress is not made. A list of existing and planned enforcement conferences and 180-day notices is included in the appendix to this chapter.

The mercury crisis and the resulting need for prompt abatement action emphasized a weakness in our present regulatory authority. The conference procedure was too cumbersome to obtain immediate relief. (Although it functions well in developing recommendations and implementation plans for those complex situations where many pollutants and polluters, as well as multiple jurisdictions, are involved.) Use of the 180-day notice was possible, but there again, would have taken time. In addition, although water quality standards contain basic prohibitions against discharging toxic materials, the lack of numerical criteria added an element of uncertainty to the probable success of enforcing the standards.

The 1899 Rivers and Harbor Act was used, therefore, to provide the quick response necessary. (See Section I, Present Authorities, for a full explanation of the Act.) Stipulations have been obtained on the 10 suits filed by the Justice Department. An overall reduction in mercury discharges of 87 per cent has been achieved.

The Rivers and Harbors Act proved a valuable tool for obtaining immediate reduction of mercury discharges. As an enforcement tool, the 1899 Act is less useful in obtaining long-range improvements in water quality. It is a "one-shot" deal without the on-going review and supervision possible under the Federal Water Pollution Control Act.

The Administration has proposed legislation to expand our enforcement authority by granting the Administrator the power to seek an injunction when the public health is endangered or irreparable damage to the environment is threatened. (Section I, Legislative proposals.)

Section IV contain a synopis of present and pending legal action and enforcement conferences.

The Federal Water Pollution Control Act called upon the States to establish standards for their interstate waters. These State standards could then be accepted as Federal standards by the Secretary of the Interior. To set standards, the States had to make crucial decisions involving the desired uses of their water resources, the quality of water to support these uses and specific plans for achieving such levels of quality. The standards are, in effect, blueprints for the national program.

Water quality standards are composed of two parts: the criteria designed to protect present and future water uses of interstate waters through establishment of quality levels which must be maintained; and a plan of implementation which outlines the pollution abatement measures which will be required to meet those criteria. First responsibility for implementing and enforcing water quality standards rests with the States. But, once accepted by the Secretary of the Interior, the standards become Federal standards and are subject, if necessary, to Federal enforcement. In the absence of timely and acceptable action by a State to adopt water quality standards on interstate streams, the Secretary of the Interior can initiate action to establish Federal standards.

Many States have standards which are not fully approved by the Secretary. The most common problems involve temperature criteria, dissolved oxygen criteria, or an anti-degradation statement. The National

Strategy (See Section II, Strategy and Goals) outlines FWQA's goals for achieving full approval of standards and for expanding water quality standards to waters presently unprotected. Another goal is the refinement of present criteria to provide adequate protection from radioactive emissions, persistent pesticides and heavy metals.

The status of Federal-State water quality standards is outlined in Section V.

Oil And Hazardous Materials Spills

It is estimated that there are annually over 10,000 spills of polluting materials into our Nation's waters. About three-fourths of these spills are oil; the remainder are other hazardous materials, such as chlorine and anhydrous ammonia. The sources of these incidents are vessels, pipelines, rail and highway carriers, land- and water-based storage tanks, refining and other manufacturing operation, the jettisoning of fuel tanks by aircraft on and offshore petroleum loading and unloading terminals, on and offshore petroleum drilling and production operations, and various other facilities and activities. The problem of accidental spills of oil is further compounded by discharges of oily ballast waters from tankers and other vessels. Pollution from oil and hazardous materials is an everyday occurrence and affects all our waters.

Of particular significance are the potentially large and damaging oil spill accidents that might easily result from the increase in shipping and pipeline transport of oil. The emergence of supertankers as the prime oceanic movers of crude oil imports, the construction of a large pipeline, such as the Trans-Alaska Pipeline System from the new Alaska North Slope oil fields, and the greater development of offshore oil are all contributing factors to the oil spill problem.

This rapid increase of oil traffic and the expansion of the offshore production of oil only intensifies the possibility of more frequent and larger accidents and of significantly greater damage to the environment.

The recent passage of the Water Quality Improvement Act of 1970 substantially strengthens the Federal law and authority to prevent and control oil pollution. Most importantly, this new legislation removes the restrictive definition of illegal spills and discharges and provides notification requirements and substantial penalites and liabilities for oil spills. These features including the requirement for the showing of financial responsibility -- or liability insurance--will promote greater care and effort on the part of the oil and oil transportation industries in the prevention of spills. Other provisions authorize greater effort by the Federal agencies in developing strengthened contingency plans, directing or fully undertaking the containment and clean-up of oil spills and providing a revolving fund to cover the costs of the latter.

In the implementation of contingency plans in coastal waters, the Great Lakes and the major inland navigable waters, the Coast Guard has provided the on-scene commanders and the principal operating resources, including personnel, ships, equipment and communications systems. FWQA participates by providing advice on containment and clean-up techniques, including the use of dispersants and other chemicals. In other waters of the Nation, FWQA has the lead operating role.

In implementing the provisions of the Water Quality Improvement Act, several technical questions were assigned to FWQA for resolution, including: definition of a harmful quantity of oil; definition of hazardous materials; criteria for local and regional contingency plans; and criteria for local and regional plans.

A brief summary of these items and the probable controversy which will probably result is shown below.

1. Regulations implementing Sec. 11(b)(3), FWPCA, as amended, were issued on September 11, 1970. These regulations contain the definition of the quantities of oil which, when discharged to the water environment, will be harmful to the public health and welfare. A "harmful discharge" as defined by the regulations (33 CFR-Part 160), as a visible sheen. The oil industry, working through the Louisiana offshore oil operators is attempting to convince the Secretary to suspend the regulations with a view toward reducing their stringency.

2. Regulations satisfying Sec. 12(a) of the Law defining hazardous substances are in a form ready for issuance. There will undoubtedly be pressure from industry as well as DOT to modify the definitions.

3. Criteria for local and regional contingency plans, Sec. 11(j)(1)(B), are being held in abeyance pending the organization of EPA. When and if they are published the Dept. of Transportation will probably oppose. The DOT position is that the internal directives issued by Commandant, USCG, satisfy the law.

ASSISTANCE

The job of controlling pollution is an enormous one both in terms of costs and in terms of manpower requirements. Few, if any, State and local governments have revenues large enough to meet the many and increasing demands confronting them. The largest share of the Federal program's resources are therefore spent for direct assistance to States and communities to help meet the national goal of clean water.

In 1956, under the first permanent Federal Water Pollution Control Act, Congress initiated the program to provide Federal grant assistance to communities to improve or build sewage treatment facilities. Under Section 8 of the present legislation, a community can get financial help in the construction of treatment facilities of at least 30% of the construction cost. Under certain conditions, such as matching State financial aid, approved water quality standards, and a comprehensive plan for approaching the problem, the share may be as high as 55%. With maximum Federal funding and 25% State funds, the community share is only 20%.

The Congress has appropriated $1 billion for this program this year. 80% of the funds are allocated, by law, among the States on the basis of population and per capita income. Some States, particularly those with no matching grant programs, are unable to use their share of the funds and the unused funds are reallocated at the end of 18 months to States which have use for them. 20% of the funds are earmarked this year for reimbursement of severe need.

In order to strengthen the program, the Agency recently issued new regulations. These regulations, 18 CFR 601.32-36, require that projects receiving Federal assistance conform to comprehensive river basin and metropolitan or regional water quality management plans. This will help assure that the Federal funds are applied cost/effectively and that the abatement of other sources of pollution will proceed simultaneously with the abatement of municipal pollution. The regulations also require that industrial users of municipal systems pretreat their wastes where necessary to avoid damage to the treatment facilities and that they repay the municipality for the costs incurred by the municipality in treating the industry's wastes. Finally, the regulations tighten up the Federal requirements on the design and operation and maintenance of treatment facilities and require annual State inspections of new facilities. In addition to these published requirements, the Agency has published as a proposal a regulation requiring secondary treatment as a minimum for any project receiving aid, with the exception of small communities or discharges into open ocean waters.

The President's proposed legislation addressed itself to other difficulties encountered in this grant program. One provision would enable the Federal government to enter into "grant agreements" with municitipaties at the rate of $1 billion a year for four years. This would assure communities of full Federal support and allow planning and construction to proceed without the traditional gap between funds authorized and funds appropriated. The proposed legislation would also provide some relief from the rather ineffective allocation formula. The population of a State does not necessarily determine its need for pollution control facilities, and the provision allowing for higher Federal grants in the case of a State matching grant program simply means that fewer projects in a State may receive aid. The proposed legislation would allocate 60% of the funds on the basis of population and per capita income, 20% to those States with matching grant programs, and 20% to those areas where the Federal government determines the need is greatest.

An additional element of the administration's program is a proposal to establish an Environmental Financing Authority which would have authority to buy the waste treatment bonds of those municipalities who are unable to sell their bonds on the open market.

Because of the high level of funding involved, this program is highly visible and has been the center of a number of controversies.

State agencies are the first line of defense in the national water pollution control effort. Many States have been able to strengthen their pollution control programs to meet the growing problems

ALLOCATION OF CONSTRUCTION GRANT FUNDS

STATE ENTITLEMENTS FOR FY 1971 BASED UPON $800,000,000 APPROPRIATION
(Figures to Serve as Tentative FY 1971 State Allotments
Operating Under Continuing Resolution)

	Total Entitlement
TOTAL	$800,000,000
NORTHEAST	146,567,500
Connecticut	11,117,800
Delaware	2,571,000
Maine	4,994,600
Massachusetts	21,980,200
New Hampshire	3,367,200
New Jersey	25,741,700
New York	69,927,900
Rhode Island	4,338,400
Vermont	2,528,700
MIDDLE ATLANTIC	113,043,900
Maryland	13,550,700
North Carolina	19,863,000
Pennsylvania	47,525,100
South Carolina	11,021,800
Virginia	17,295,300
Dist. of Columbia	3,788,000
SOUTHEAST	92,047,300
Alabama	14,680,000
Florida	21,331,100
Georgia	17,289,000
Mississippi	10,359,900
Tennessee	15,814,700
Puerto Rico	11,067,200
Virgin Islands	1,505,400
OHIO BASIN	83,316,100
Indiana	20,052,000
Kentucky	13,609,300
Ohio	40,849,800
West Virginia	8,805,000
GREAT LAKES	119,627,300
Illinois	42,294,100
Iowa	12,221,800
Michigan	33,043,400
Minnesota	14,930,100
Wisconsin	17,137,900
MISSOURI BASIN	52,971,400
Colorado	8,084,200
Kansas	9,842,200
Missouri	18,690,300
Nebraska	6,674,300
North Dakota	3,632,000
South Dakota	3,799,800
Wyoming	2,248.600
SOUTH CENTRAL	79,122,700
Arkansas	8,580,800
Louisiana	14,510,200
New Mexico	4,976,300
Oklahoma	10,588,200
Texas	40,467,200
SOUTHWEST	83,494,200
Arizona	6,316,000
California	65,557,000
Hawaii	3,410,900
Nevada	1,888.000
Utah	4,672,900
Guam	1,649,400
NORTHWEST	29,809,600
Alaska	1,622,500
Idaho	3,787,400
Montana	3,724,200
Oregon	8,138,900
Washington	12,536,600

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thrust on them in the past several years. Others, however, have not had adequate laws and resources to do the job. Federal program grants to State and interstate agencies are an important aid in helping these agencies meet their responsibilities.

The Section 7 State program grant program started in 1957 with an annual authorization of $2 million. The annual figure has grown to $10 million today, and the State and interstate agency expenditures have increased more than six times during that same timeframe. Funds are used for employing needed technical personnel, for purchasing special laboratory and field equipment, for waste treatment plant inspection programs, for more aggressive enforcement of State laws, for expanded monitoring and surveillance programs, and for training. The funds which can provide up to 70% of the State agency's operating budget must be earned by State expenditures.

On the following pages, two tables are displayed showing the allocation of the FY 71 fiscal funds. As a basis for receiving a Federal program grant, each State and eligible interstate agency must prepare a plan describing how the grant will be used to strengthen its pollution control program. To assure the most effective utilization of these funds, the Federal Water Quality Administration (FWQA) has developed guidelines which set forth the essential elements of an effective State and interstate program plan.

ALLOCATION OF PROGRAM GRANT FUNDS

Estimated FY 1971 Grants to States and Territories

Region	Allocation
Northeast	
Connecticut	$ 167,400
Delaware	85,900
Maine	63,000
Massachusetts	264,600
New Hampshire	63,500
New Jersey	311,900
New York	650,400
Rhode Island	111,000
Vermont	43,700
Middle Atlantic	
Maryland	181,300
North Carolina	264,600
Pennsylvania	488,300
South Carolina	157,400
Virginia	210,500
District of Columbia	87,800
Southeast	
Alabama	190,500
Florida	266,300
Georgia	218,700
Mississippi	145,100
Tennessee	208,200
Puerto Rico	195,000
Virgin Islands	73,000
Ohio Basin	
Indiana	230,000
Kentucky	165,000
Ohio	447,300
West Virginia	110,200
Great Lakes	
Illinois	428,000
Iowa	121,200
Michigan	357,800
Minnesota	155,400
Wisconsin	193,000

Region	1971 Allocation
Missouri Basin	
Colorado	$ 83,000
Kansas	97,600
Missouri	196,100
Nebraska	66,400
North Dakota	37,200
South Dakota	38,500
Wyoming	23,600
South Central	
Arkansas	115,700
Louisiana	184,100
New Mexico	52,300
Oklahoma	117,600
Texas	427,000
Southwest	
Arizona	75,500
California	660,100
Hawaii	71,100
Nevada	24,900
Utah	55,400
Guam	75,000
Northwest	
Alaska	20,000
Idaho	44,100
Montana	39,000
Oregon	96,900
Washington	136,300
Total	$9,400,000

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Estimated FY 1971 Grants to Interstate Agencies

		Allocation
New England Interstate Water Pollution Control Commission		$ 87,400
Connecticut	New Hampshire	
Massachusetts	Rhode Island	
Maine	New York	
Vermont		
Ohio River Valley Water Sanitation Commission		190,900
Illinois	New York	
Indiana	Kentucky	
Ohio	West Virginia	
Pennsylvania	Virginia	
Delaware River Basin Commission		133,500
Delaware	New Jersey	
New York	Pennsylvania	
Interstate Sanitation Commission		137,800
New York	Connecticut	
New Jersey		
Interstate Commission on the Potomac River Basin		50,400
District of Columbia		
Maryland	Virginia	
Pennsylvania	West Virginia	
Total		$600,000

In addition to constituting a request for grant assistance, the Program Plan serves several other important purposes.

1. It provides the State's annual report on progress in implementing water quality standards.

2. It provides information essential to FWQA in developing assistance and coordinating other grants to the State or interstate agency under other provisions of the Federal Act.

3. It identifies and discusses problems and issues in extending or improving the State or interstate agency's water pollution control program and helps in evaluation and program planning.

In order to provide maximum assistance to the States, a new approach for analyzing and evaluating the effectiveness of State program performance is being tested in cooperation with State water pollution control agencies. The proposed new system will be oriented to accommodate inclusion of such detailed information as necessary to permit an objective evaluation of program performance. The State program appraisal will form the basis for evaluating basic State program resources, such as State policy, legislative authority, rules and regulations, organization, staffing, and budget; performance in terms of resource utilization; and accomplishments, such as stream miles or estuarine acres brought into compliance with water quality standards.

In addition, the system will identify State program needs and translate those needs into priorities and objectives in pollution control. The appraisal procedure will define and identify the minimum criteria governing Federal financial assistance to State programs. It will provide for a continuous review of State programs in order to enhance coordination of State and Federal activities and will permit relating accomplishments to established goals. Finally, the appraisal system will provide for a meaningful comparison of State program performance among States.

The State program grant is a more effective tool than the $10 million appropriation might indicate. States cannot receive construction grants funds unless they have an approved State program for the year. Thus, States that would be willing to forego the State program grant funds, are forced into making needed changes in their program in order to maintain their eligibility for construction monies. Frequently this tool is used on the State level as well. The State agency is able to obtain higher appropriations from the State Legislature because of the public pressure to obtain construction funds. FWQA recently withheld approval of the Kentucky State program pending the resolution of some exceptions to the State water quality standards. Public pressure forced the State to respond in a positive fashion to settling the dispute.

The accelerated drive for clean water stemming from strengthened Federal regulatory and financing programs will also demand an increased capability on the part of the water pollution control agencies of many States. For this reason, proposed legislation to provide additional grants to State and interstate agencies is an important element of the Administration's program. The new legislation would increase the authorization each year on a sliding scale from $12.5 million for fiscal year 1971 up to $30 million for fiscal year 1975. Emphasis would be placed on development, performance, and substantial improvements to State programs. The basic grant program contained in the present Act would remain, but three new categories of grants would be authorized: program development grants, program improvement grants, and special project grants.

Water quality management studies are an important part of the national clean waters program. FWQA carries out a number of direct studies with the States and with other Federal agencies. In addition to these efforts, FWQA supports regional planning through grants under Section 3 (c) of the Act to planning agencies at the State and local level. These grants are designed to stimulate the kind of State and local planning which is important to the implementation and improvement of water quality standards along river basin lines. The plans which result from these studies are directly applicable to the planning requirements for construction grants.

The planning grant program was initiated in 1967, and 12 studies are underway with total Federal costs of over $2.5 million. The Federal share is limited to 50% of the costs of developing the plan. These grants afford agencies at the State and local level a unique opportunity to participate in solving their pollution problems on a coordinated, long-range basis.

The emphasis in the President's environmental message and in the recently published regulations on conformance of waste treatment facility construction with basin programs and regional planning to ensure speedy and coordinated pollution abatement will require increased emphasis on the part of FWQA on implementing effective short-term planning and appraisals. The National Plan and Strategy outlines the increased efforts which will be needed in the planning area in the years immediately ahead if we are to make the best use of the increased funding of municipal treatment facility construction.

Effective utilization of funds for construction and other aspects of pollution control can only result if adequate staffs of skilled and motivated people are available for jobs ranging from treatment plant operator to research scientists. FWQA provides grant and scholarship assistance for the training of professional and non-professional personnel for the water pollution control field.

Particular emphasis is placed on training operators, both improving the skills of unskilled persons and improving the skills of people working in the field. These training efforts include the use of FWQA funds and the administration of approximately $6.6 million of other agency funds such as from the Department of Labor and Health, Education and Welfare through contractural agreements. During FY 71, this program will result in the training of approximately 9,200 persons.

FWQA also makes grants to academic institutions to establish or extend the scope of advanced training in water pollution control in their engineering, biological, physical and social science departments. Under this program, institutions are encouraged to develop the specialized and multidisciplinary training of scientists, engineers, and administrators in water quality management.

Research fellowships are also awarded to individuals for specialized graduate and post-graduate training involving investigations particularly related to FWQA's mission.

A final aspect of FWQA's training effort is the specialized and advanced technical training offered at FWQA laboratories to government employees and others working in pollution control. Special emphasis is given to training courses or programs which assist the State and local agencies in training their personnel, thus strenghtening State and local effectiveness in water pollution control.

FWQA assists the State and interstate water pollution control agencies in developing their technical capabilities and provides financial assistance for this purpose through the program grants previously described. These agencies conduct a great many of the technical investigations required to carry out an effective water pollution control program, but frequently they find it necessary to call for outside assistnace to handle problems which exceed their capabilities. To meet these needs FWQA provides technical assistance of various kinds ranging from technical advice and consultation to extensive, long-term field and laboratory studies. Within the limits of available resources, this assistance is provided on request, primarily to the State and interstate water pollution control agencies, but also to other public agencies, including other Federal agencies.

FWQA's technical assistance is devoted to investigating specific problems and finding the appropriate available corrective measures. These suudies are not directed to research or development of new and improved technology; however, in some cases these studies indicate that corrective measures are not apparent. Thus fruitful topics for research are often identified and these are referred to FWQA's research and development program for follow-up.

To carry out its technical assistance activities, FWQA relies on the basic staffs of engineering, scientific and technical personnel and support laboratory facilities and equipment in each of its nine

Regions. Each Region is equipped to conduct intensive field studies involving chemical, biological, microbiological, hydrologic and other disciplines. The coastal Regions are equipped to undertake oceanographic investigations in addition to other types, and the Great Lakes Region has special capabilities for performing lake investigations.

Effective implementation and enforcement of water quality standards, development of regional and basin plans, administration of grants, and preparation of reports assessing costs of pollution control and abatement progress require up-to-date, accurate fact-finding and readily available data.

Several types of technical information are required to meet the various needs: specific data covering the status and effectiveness of municipal, industrial and Federal waste treatment and control facilities; current economic data associated with construction activities; and water quality data related to the water quality standards.

Collection, evaluation, and dissemination of data on chemical, physical, and biological water quality and other information relating to water pollution discharges is an essential element of the Federal Water Quality Administration (FWQA) program. Through effective coordination with other Federal and State agencies, such data and information are utilized at the national, regional and basin levels.

To achieve the objectives of the coordinated data and information program, it is essential that the data collected be evaluated in an expeditious manner and made readily available to all users. FWQA's existing computerized data storage and retrieval system (STORET), coupled with additional computer programs, will meet these requirements. All data collected by FWQA will be placed in STORET to be available for analysis and use.

Using the most up-to-date computer technology, the data collected are entered in a central computer on a daily and weekly basis by remote terminals in all FWQA Regions. Similarly, questions can be asked of the central computer from the remote terminal and receive timely responses. This application is now being expanded to include several Federal and State agencies.

RESEARCH, DEVELOPMENT AND DEMONSTRATION

The R,D&D program is highly mission-oriented. Each of the projects it supports is designed to respond to an identified need for an answer. These "needs" are specified and assigned priority primarily through input from the non-research elements of FWQA. Thus, the program aims to respond to the needs of the agency as a whole rather than to the needs which the researchers themselves may deem important.

To assist in managing the program and in setting priorities and resource allocations, a problem-oriented project categorization (PPB Structure) is utilized. Eight major PPB Sub-Programs exist; the first five relate to single-source-related pollution problems from municipal, industrial, agricultural, mining, and other sources. The last three relate to problems of a multiple source nature, i.e., problems where the answers will be applicable broadly to many different sources of pollution. (A chart of the PPB categories is displated on the next page.)

Representative objectives being sought within each of FWQA's eight R,D&D Sub-Programs are as follows:

A. Specific Source Sub-Programs

1. Municipal-Pollution Control Technology

   Demonstration of waste treatment technology for the attainment of reliable and high efficiency control of municipal BOD wastes.

   Demonstration of new technology for removal of phosphates from sewage.

Development and demonstration of methods for the control of storm and combined sewer discharges.

2. Industrial-Pollution Control Technology

   Development of both waste treatment and at-source control techniques for difficult-to-control industrial wastes.

   Development of pre-treatment techniques to allow industrial wastes to be safely discharged to municipal sewerage systems for joint treatment.

   Demonstration of high efficiency treatment systems for all major industrial categories.

   Development of closed-loop systems to allow many industries to operate without any waste discharge at all.

3. Agricultural-Pollution Control Technology

   Development and demonstration of effective solutions to pollution from animal feed lots.

   Development of methods for controlling water quality degradation from irrigation return flows.

   Exploration and development of methods to minimize the run-off pollution of fertilizers and pesticides from agricultural land .

4. Mining-Pollution Control Technology

   Development and demonstration of methods to prevent the formation of acid drainage.

   Demonstration of methods to economically treat or neutralize mine drainage discharges.

5. Other Sources of Pollution Control Technology

Development and demonstration of methods to prevent, contain and clean up oil pollution.

Exploration of techniques to prevent and mitigate the effects of hazardous material spills.

Development of devices to control and treat wastes from watercraft, isolated recreational areas, construction operations and dredging operations.

D. Multi-Source Subprograms

1. Water Quality Control Technology

Development of methods to control eutrophication and to restore the quality of the degraded lakes of the Nation.

Development of methods to detect, identify and trace contaminants in water to monitor our water quality in order to warn of impending problems, to assure compliance with regulatory actions, and to relate pollution discharge loads to receiving water quality.

Demonstration of effective and economical control of thermal pollution and beneficial uses of waste heat.

2. Waste Treatment and Ultimate Disposal Technology

Development of methods for the effective and economical removal of nitrogen nutrients from waste streams.

Development of advanced waste treatment processes to achieve complete elimination of point-source waste discharges.

Demonstration of technology for the renovation and re-use of wastewaters.

3. Water Quality Requirements Research

Generation of the data and scientific information necessary to refine and extend the water quality criteria upon which both State and Federal water quality standards for municipal, industrial, agricultural, and recreational uses and for propagation of fish and aquatic life are based.

The mechanisms utilized in carrying out the R,D&D program are threefold:

1) In-house research and development at eight laboratory locations plus a number of associated field sites.
2) Contract projects, primarily with industry and research institutes.
3) Grant projects with universities, industries, States and municipalities. (Matching funds required.)

The in-house program is predicated on the assignment of national responsibilities in various technical or problem areas to each of the laboratories. In this way, each lab functions as a focal point for research on a given set of problems, thereby facilitating the coordination of research, establishing defined responsibilities and chains of command and avoiding duplication of facilities, staff and effort among the various laboratories. Lab sites are located at Cincinnati, Ohio; Athens, Georgia; Ada, Oklahoma; Corvallis, Oregon; College, Alaska; Duluth, Minnesota; Narragansett, Rhode Island, and Edison, New Jersey.

The Robert S. Kerr Water Research Center at Ada, Oklahoma, is directed by W. E. Galegar. It carries out the experimental application of technology for treatment, control or prevention of pollution from the petrochemical industry, oil production, petroleum refining, irrigation return flows, animal feedlots, and meat packing. It is responsible for the development of technology for the control of pollution by means other than waste treatment, such as by process change, dilution, and dispersion, finally it carries out research on methods for predicting the concentration and form of pollutants as they move through ground water, the ultimate disposal of waste concentrates underground, soil treatment, soil chemistry and microbiology, and ground water recharge.

The Southeast Water Laboratory at Athens, Georgia, is directed by David Duttweiler. The Laboratory carries out experimental application of technology for the treatment, control or prevention of pollution from agricultural runoff, pesticide and fertilizer manufacturing, phosphate mining, textile mills, and chicken and citrus processing. It carries out research on physical and chemical analytical methods for detecting, measuring, characterizing and indicating pollution and sources of pollution and research on methods for predicting the concentration and form of pollutants as they move through inland surface waters.

The Robert A. Taft Water Research Center at Cincinnati, Ohio, is under the direction of F. M. Middleton. It is responsible for most municipal treatment research, including the application of technology for the treatment, control or prevention of pollution from municipal sewers and unsewered homes. It is the center for the development of technology for physical-chemical and biological methods of separation, modification, or destruction of impurities in wastewaters. Finally, the Center is responsible for the development of ultimate disposal, i.e., for technology, non-pollutional disposal of sludges, brines or other waste concentrates other than disposal underground.

The Alaska Water Laboratory at College, Alaska, is directed by Richard Latimer. It is FWQA's center for cold climate research, i.e., the prevention, control, and effects of pollution in the Arctic environment.

The Pacific Northwest Water Laboratory at Corvallis, Oregon, is directed by A. F. Bartsch. It is responsible for the experimental application of technology for treatment, control, or prevention of pollution from pulp and paper manufacture, potato processing, fish processing, lumber mills, and logging operations. It is responsible for the development of technology for the control and prevention both of accelerated eutrophication and of thermal pollution. Finally it carries on research on methods for predicting the concentration and form of pollutants as they move through coastal waters and estuaries.

The National Water Quality Laboratory under the direction of D. I. Mount is located in Duluth, Minnesota. It is responsible for determining the physical, chemical, and biological requirements for all uses of fresh water, including municipal, industrial, agricultural and recreational uses and propagation of fish, other aquatic life and wildlife.

The National Marine Water Quality Laboratory at Narragansett, Rhode Island, is directed by C. M. Tarzwell. It is responsible for determining the physical, chemical and biological water quality requirements for all uses of marine waters, including the propagation of fish, other aquatic life and wildlife.

The North Atlantic Water Quality Management Center at Metuchen, New Jersey, is directed by K. H. Walker. It is responsible for the experimental application of technology for the treatment, control or prevention of pollution from boats and vessels, oil, and storm and combined sewers.

Notable in the grants program are special authorities to support both pilot-scale and full-scale demonstration projects on storm and combined sewer discharges, advanced waste treatment and wastewater renovation, and industrial waste treatment and control. These projects are particularly significant in that they permit FWQA to carry R&D findings on into the demonstration phase, thereby actually establishing what can be accomplished through use of new technology and at what cost.

It may also be of interest that FWQA is involved in a number of cooperative efforts with the Bureau of Reclamation, AEC, OSW, OWRR, PHS, TVA, etc.

The new obligational authority for the current Fiscal Year for research, development and demonstration is expected to be $60.0 million ($45.2 million original appropriation plus $14.8 million supplemental). Just over 33% of this funding supports the in-house staff of over 650, 24% is for contracts and some 42% is for grant-supported projects. The breakdown of the FY 71 budget among the eight Sub-Programs is shown on the following table.

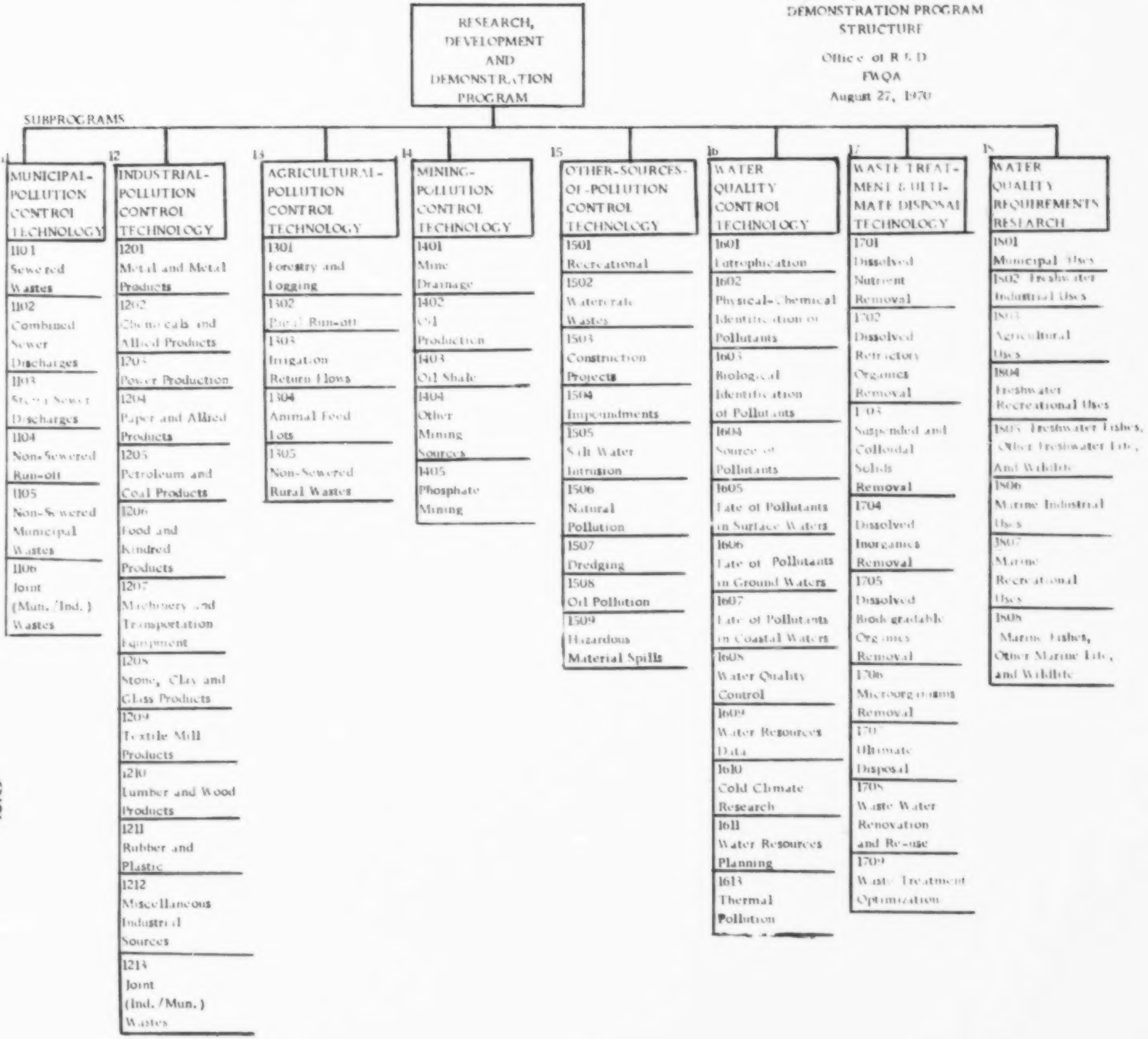
(million $)

PPB Sub-Program	FY 71*
Municipal Pollution	11.5
Industrial Pollution	4.9
Agricultural Pollution	2.5
Mining Pollution	3.1
Other Sources of Pollution	10.6
Water Quality Control Technology	12.1
Waste treatment and Ultimate Disposal Technology	5.2
Water Quality Requirements Research	10.1
Total	60.6

* Includes requested supplement of $14.8 million to respond to 1970 amendments to the Water Pollution Control Act.

RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAM STRUCTURE

Office of R & D
FWQA
August 27, 1970



RESEARCH, DEVELOPMENT AND DEMONSTRATION PROGRAM

SUBPROGRAMS

- 11 MUNICIPAL-POLLUTION CONTROL TECHNOLOGY
  - 1101 Sewered Wastes
  - 1102 Combined Sewer Discharges
  - 1103 Storm Sewer Discharges
  - 1104 Non-Sewered Run-off
  - 1105 Non-Sewered Municipal Wastes
  - 1106 Joint (Mun./Ind.) Wastes
- 12 INDUSTRIAL-POLLUTION CONTROL TECHNOLOGY
  - 1201 Metal and Metal Products
  - 1202 Chemicals and Allied Products
  - 1203 Power Production
  - 1204 Paper and Allied Products
  - 1205 Petroleum and Coal Products
  - 1206 Food and Kindred Products
  - 1207 Machinery and Transportation Equipment
  - 1208 Stone, Clay and Glass Products
  - 1209 Textile Mill Products
  - 1210 Lumber and Wood Products
  - 1211 Rubber and Plastic
  - 1212 Miscellaneous Industrial Sources
  - 1213 Joint (Ind./Mun.) Wastes
- 13 AGRICULTURAL-POLLUTION CONTROL TECHNOLOGY
  - 1301 Forestry and Logging
  - 1302 Rural Run-off
  - 1303 Irrigation Return Flows
  - 1304 Animal Feed Lots
  - 1305 Non-Sewered Rural Wastes
- 14 MINING-POLLUTION CONTROL TECHNOLOGY
  - 1401 Mine Drainage
  - 1402 Oil Production
  - 1403 Oil Shale
  - 1404 Other Mining Sources
  - 1405 Phosphate Mining
- 15 OTHER-SOURCES-OF-POLLUTION CONTROL TECHNOLOGY
  - 1501 Recreational
  - 1502 Watercraft Wastes
  - 1503 Construction Projects
  - 1504 Impoundments
  - 1505 Salt Water Intrusion
  - 1506 Natural Pollution
  - 1507 Dredging
  - 1508 Oil Pollution
  - 1509 Hazardous Material Spills
- 16 WATER QUALITY CONTROL TECHNOLOGY
  - 1601 Eutrophication
  - 1602 Physical-Chemical Identification of Pollutants
  - 1603 Biological Identification of Pollutants
  - 1604 Source of Pollutants
  - 1605 Fate of Pollutants in Surface Waters
  - 1606 Fate of Pollutants in Ground Waters
  - 1607 Fate of Pollutants in Coastal Waters
  - 1608 Water Quality Control
  - 1609 Water Resources Data
  - 1610 Cold Climate Research
  - 1611 Water Resources Planning
  - 1613 Thermal Pollution
- 17 WASTE TREATMENT & ULTIMATE DISPOSAL TECHNOLOGY
  - 1701 Dissolved Nutrient Removal
  - 1702 Dissolved Refractory Organics Removal
  - 1703 Suspended and Colloidal Solids Removal
  - 1704 Dissolved Inorganics Removal
  - 1705 Dissolved Biodegradable Organics Removal
  - 1706 Microorganisms Removal
  - 1707 Ultimate Disposal
  - 1708 Waste Water Renovation and Re-use
  - 1709 Waste Treatment Optimization
- 18 WATER QUALITY REQUIREMENTS RESEARCH
  - 1801 Municipal Uses
  - 1802 Freshwater Industrial Uses
  - 1803 Agricultural Uses
  - 1804 Freshwater Recreational Uses
  - 1805 Freshwater Fishes, Other Freshwater Life, And Wildlife
  - 1806 Marine Industrial Uses
  - 1807 Marine Recreational Uses
  - 1808 Marine Fishes, Other Marine Life, and Wildlife

INTERNATIONAL

In October, 1970, Russell Train, Chairman of the Council on Environmental Quality, met with Premier Sato in Japan. Environmental quality -- mutual problems and their possible solutions -- was the subject of their discussions. This meeting was the first of its kind. The need for such discussions will become more pressing as the international implications of pollution and its control gain recognition. Oil spills, the spread of DDT, air pollution, and thermal discharges are just a few of the issues which could gain prominence in the international arena.

FWQA provided technical support for the discussions in Japan, and our Assistant Commissioner for Environmental and Program Planning preceded Mr. Train to Japan to lay **the** necessary groundwork for the talks. In addition, FWQA personnel represented the United States in Brussels at the International Conference on Oil Spills and will participate at the Food and Agriculture Organization's December conference on the environment in Rome.

In 1972, a Conference on the Human Environment will be sponsored by the United Nations. Representatives will meet in Stockholm. Water quality will be an item on the agenda. FWQA is presently cooperating with the State Department to develop the United States position. It is likely that the need for an international environmental organization will be one of the proposals to receive serious consideration.

(Senator Magnuson has already introduced a bill to establish an international clearing house on environmental information.)

Preparation for the 1972 conference will require extensive effort on the part of the Environmental Protection Agency. In addition, existing international commitments are likely to pose greater demands. For example, the International Joint Commission, (United States and Canada), is intensifying its efforts to restore and protect the water quality of the Great Lakes. FWQA presently holds chairmanships of three United States technical committees. The quality of the boundary waters between Mexico and the United States is a growing issue which may require increasing efforts on the part of EPA.

The Agency routinely assists in planning itineraries for foreign visitors who are interested in viewing various waste treatment processes used in this country. Requests come from all over the world for technical reports and explanations of our present control programs. The United States is one of the leaders in pollution control technology and programs, and we must be prepared to make our experience available to other nations.

United States involvement in international pollution control and information exchange is just beginning. The need for technical support and innovative planning poses an impressive challenge for EPA. Greater staff resources will be needed, and it should also be recognized that the ranking officials of EPA may well be called upon to provide support for international negotiations.

IV. LEGAL ACTIONS

Mercury Dischargers

Referrals for Court Action

The following materials describe the present status of ten cases submitted for prosecution by the Secretary of the Interior. The ten cases were transferred to the Department of Justice July 24, 1970.

Justice prepared draft pleadings on the cases, and transmitted the papers to the U. S. Attorneys of the requisite districts with a recommendation that motions for temporary restraining orders be filed immediately. However, applications for temporary restraining orders were filed in only two cases: Oxford Paper Company and Diamond Shamrock Chemical Corporation at Muscle Shoals, Alabama. In both of these cases, temporary restraining orders were denied.

In all cases, a motion for preliminary injunction and a complaint requesting a permanent injunction forbidding the discharge of any mercury to the aquatic environment were filed.

Only one case has gone to trial to date: Olin Corporation in Niagara Falls, New York. This case resulted in the entry of a stipulation after the close of plaintiff's evidence.

In eight of the remaining cases, stipulations similar in terms to the one entered in Olin case have been secured. In the Oxford Paper case, the judge's order denying a temporary restraining order set forth the company's agreement to permanently cease operations resulting in mercury discharges.

Allied Chemical Corporation
Solvay, New York

On September 15, 1970, the company agreed to the entry of a stipulation in the case providing that the company's two plants were to discharge less than 1/2 lb/day each on a weekly combined average and that the company was to further reduce its mercury discharges where possible and to submit a plan by December 1, 1970, outlining steps to further reduce discharges.

Diamond-Shamrock Corporation
Delaware City, Delaware, Chlor-alkali Plant

As of August 26, 1970, the firm alleged that it was discharging less than 1.7 lbs of mercury per day to the Delaware River.

A meeting held September 4, 1970, resulted in no progress toward settlement. However, at a subsequent meeting at Justice on September 28, 1970, the company agreed to the entry of a stipulation providing that the firm is to reduce its mercury discharges to 1/2 lb. or less per day on a weekly average by October 1, 1970, except that if tests indicate residual mercury in the sewer system of the plant increases the discharge above 1/2 lb/day, the company will be given an additional 30 days to correct the situation or replace the sewer system. The company also agreed to make efforts to reduce its mercury discharges to less than 1/2 lb/day and to submit a plan to Justice on or before December 1, 1970, indicating efforts to further reduce discharges. The stipulation was entered in court on September 29, 1970.

Olin Corporation
Niagara Falls, New York, Chlor-Alkali Plant

The case was heard in U. S. District Court, Buffalo, New York before Judge Henderson on September 3 and 4; September 8 and was concluded on September 21, when the company agreed to the entry of a stipulation. The stipulation provides that the plant will discharge less than 1/2 lb/day of mercury computed on a 21-day average. The company will make efforts to further reduce its mercury discharges and is to submit a plan by December 1, 1970, on further reductions.

The Government's case survived preliminary dismissal on jurisdictional grounds and the judge reserved ruling on defendant's motion for preliminary judgment at the close of the plantiff's case until defendant presented its evidence.

The stipulation was entered in court on September 21, 1970. A transcript of the hearing is also available.

Georgia Pacific Corporation
Bellingham, Washington

A meeting held at the Justice Department on September 28, 1970, resulted in the company's agreement to enter a stipulation in the case. The stipulation provides that the company is to discharge no more than 1/2 lb/day of mercury from its chlor-alkali plant on a weekly average, to make efforts to reduce its mercury discharges to below 1/2 lb/day and to submit a plan on or before December 1, 1970, describing efforts to further reduce its discharges.

The stipulation, however, covers only mercury discharged from its chlor-alkali plant. The principal source of mercury is presently its pulp and paper operation -- which are contributing about 1.06 lbs/day as of August 27, 1970, (the chlor-alkali plant was discharging about .17 lbs/day on the same date).

The company agreed to submit a program for reduction of mercury in the effluent from these operations as part of its December 1, 1970, submission.

Georgia Pacific officials allege that the FWQA sampling results on the pulp and paper operations are too high, that it is not possible to accurately measure the amount of mercury in this effluent because of high suspended solid content and that a large proportion of the mercury comes from the trees it uses and its water intake.

The stipulation was entered in court on September 29, 1970.

International Minerals and Chemical Chlor-Alkali Company
Orrington, Maine

At a meeting held September 17, 1970, at the Justice Department, IMC officials agreed to the entry of a stipulation in the case. The stipulation provides that IMC is to discharge less than 1/2 lb mercury per day to the Penobscot River, that the firm is to make efforts to further reduce mercury discharges, and is to submit a report on or before December 1, 1970, outlining a program for further reductions. The decree was entered on September 18, 1970, a copy of which is attached.

Oxford Paper Company Division of the Ethyl Corporation
Rumford, Maine

Pretrial proceedings to settle the issue of sludge disposition calendared for September 24, 1970, were set over indefinitely pending negotiations with the company.

FWQA has completed a preliminary sludge sampling program on the Androscoggin River in the vicinity of and downstream from the Oxford plant which have shown low to moderate mercury levels in the sludge. Further action in the case awaits an Interior decision on whether to require removal or covering of the mercury contaminated sludges. Further scientific data on the hazards of the sludge, as well as additional sampling would be desirable before the decision is made.

The company has closed and completely dismantled its chlor-alkali plant.

Diamond-Shamrock Corporation
Muscle Shoals, Alabama, Chlor-Alkali Plant

A meeting held Friday, October 23, 1970, at the Justice Department with company officials resulted in agreement on a stipulation with terms similar to earlier stipulations. The stipulation was entered in court October 29, 1970. Copies are not yet available. Diamond-Shamrock's discharge is limited to an average of 1/2 lb/day with exceptions for accidental spillage, etc., with further reductions where possible. Submission of a report by December 1, 1970, on a plan for further reductions is also required.

Justice officials encountered reluctance from the company on the stipulation due to the outstanding court order of August 4th allowing the company to discharge up to 1 1/2 lbs/day. However, agreement on the wording of the stipulation was reached with the company voluntarily limiting its discharges to 1/2 lb/day but with recognition given to the outstanding court order.

Olin Corporation
Augusta, Georgia, Chlor-Alkali Plant

A stipulation similar in terms to the one covering Olin's Niagara Falls plant was entered in court October 13, 1970. Copies of the stipulation are not yet available.

The execution of this stipulation provoked an immediate response by Georgia State officials, who were in the process of issuing more stringent mercury discharge requirements to the firm. Despite the low average level of the plant's discharges (averaging well below 1/4 lb/day) the Justice Department accepted agreement on the 1/2 lb/day figure.

Pennwalt Corporation
Calvert City, Kentucky

At a meeting held at the Justice Department on October 22, 1970, with company officials, agreement was reached upon a stipulation in the case. The stipulation was entered in court October 23, 1970. Copies are not yet available.

It provides that Pennwalt's mercury discharges are to average less than 1/2 lb/day; the firm is to seek further reductions where possible, and is to submit a report by December 1, 1970, outlining a plan for further reductions.

Weyerhaeuser Corporation
Longview, Washington

At a meeting held October 14, 1970, at the Justice Department, agreement was reached with company officials on a stipulation in the case, a copy of which is attached. As previously indicated, the stipulation allows the firm to discharge an average of 1 lb/day for its two chlor-alkali plants at the Longview location. The stipulation also requires further reductions where possible as well as a report by December 1, 1970, outlining a plan for further reductions.

THERMAL POLLUTION PROBLEM
FLORIDA POWER AND LIGHT COMPANY

DECEMBER 1, 1969

The Honorable Claude R. Kirk, Governor of Florida, requested in writing that the Secretary call a Federal-State conference on thermal discharges entering Biscayne Bay, "in order that we may preserve the unique environment of Biscayne Bay and adjacent bodies of water."

FEBRUARY 24-26, 1970

The conference was held at the Sheraton Four Ambassadors Hotel, Miami, Florida. The conference Chairman was directed by the Secretary to make the following announcement in his opening remarks:

> "Secretary Walter J. Hickel has directed me to say that the Federal Government has communicated a number of times with officials of the Florida Power and Light Company regarding its proposed project. The State of Florida has expressed its concern through Governor Kirk's official request for this conference. Now we are meeting together to hear, study, and determine what shall be the appropriate State and Federal requirements to protect this special coastal area. Public announcement of this conference was made some time ago, in fact, on December 11, 1969.
>
> We had expected the officials of the Florida Power and Light Company to refrain from taking any action which would change the position of the parties to be affected by this conference. However, we have learned that on February 7th, the Company gave its go ahead to have excavating machinery begin the actual digging of a canal. This indicates that the Company intends to proceed with its projected plan regardless of the deliberations of this Federal-State conference.
>
> As part of its statement before this conference, I want the Florida Power and Light spokesman to declare that his company will not proceed with the canal excavation until the Federal and State requirements have been

> established. The parties to this conference prefer to have the expression of good faith from the Company officials, so that the option now available to the State and Federal Government will not be disturbed or foreclosed.
>
> If the Florida Power and Light Company officials are unwilling to stay the construction of the canal, then I must announce that the Secretary of the Interior will request the Justice Department to seek appropriate remedies to protect the Biscayne Bay National Monument, including court action, if necessary."

The conferees concluded that severe local damage has occurred to the aquatic plant and animal population of lower Biscayne Bay due to the present heated effluent of the Turkey Point Plant of the Florida Power and Light Company. They stated further that this constitutes pollution in violation of the State of Florida's and FWQA's standards, particularly those provisions relating to damages caused by increases in temperature; and the anti-degradation statement.

FEBRUARY 24, 1970

The Director, National Park Service sent a memorandum to the Solicitor, requesting immediate legal action to protect the Biscayne National Monument which is administered by the National Park Service.

FEBRUARY 25, 1970

A letter was signed by the Secretary and sent to the Attorney General requesting the Department of Justice to undertake the necessary legal action against the Florida Power and Light Company to abate pollution of U. S. navigable waters including waters of the Biscayne National Monument.

FEBRUARY 27, 1970

The Solicitor then sent to the Attorney General, a followup letter detailing what the Justice Department was to do.

Immediately thereafter an action was filed in the United States District Court, Southern District of Florida No. 70-328-Civ-CA entitled United States of America vs. Florida Power and Light Company. The counts allege that:

1. The discharge of heated water by the Florida Power and Light Company into Biscayne Bay from that Company's existing power generating plants destroys the sea life and the existing ecology of the Biscayne National Monument, alters and degrades the scenery of the Monument and thus defeats the possibility of the Monument's being a source of enjoyment for future generations.

2. These discharges of heated water are harmful and constitute a nuisance with respect to the property now owned and hereafter to be acquired by the United States within the National Monument.

3. These discharges of heated water, saturated with dead organisms, are in violation of the Refuse Act of 1899, 33 U.S.C. 407.

4. The proposed operations of the defendant's nuclear plants, when instituted, will be in violation of the law and harmful to the United States for each and every one of the reasons for which the operation of the existing plants is in violation of the law and harmful to the United States.

APRIL 16, 1970

The Department of Justice requested a preliminary injunction to be followed by a permanent injunction. The United States District Judge C. Clyde Atkins denied the request for a preliminary injunction stating in his order, "It is a basic principle that preliminary injunctive relief should not be granted in the absence of proof of irreparable harm and a substantial likelihood of success when the case is fully tried on the merits." The Judge went on to say, "While I denied relief sought at this stage pertaining to the two nuclear power units being installed at Turkey Point, I am concerned about the large amount of heated water the units will discharge when they begin operation in 1971 and 1972. Therefore, I do plan to receive further evidence on this point at hearings to be scheduled at a later date."

The Florida Power and Light Company's attorneys have made a motion to dismiss the legal action. The judge granted the motion on the first of the four counts of the complaint. The judge asked for a written memorandum of law from Justice and Florida Power and Light's attorneys. Florida Power and Light's attorneys have asked the judge to grant them the right to appeal as part of his interlocutory decree. Should the judge grant this the entire case will then be remanded to the 5th Circuit Court of Appeals for decision. Pending the Circuit Court of Appeals decision the judge may not set a trial date. Should the judge not grant the appeal then he can set a trial date for the permanent injunction.

ENFORCEMENT
WATER QUALITY STANDARDS
(180-day notice of water quality standards violation)

Under the provisions of section 10(c)(5) of the Federal Water Pollution Control Act, as amended (33 U.S.C. 466 et seq.), notice was issued on August 30, 1969, by the Secretary of the Interior to the following sources of waste that an abatement action could be brought by the United States unless action were taken to resolve the problem within 180 days:

1. Eagle-Picher Company (Spring River-Willow Creek): Informal hearing held September 23, 1969, with FWQA and Company officials to seek agreement on timely remedial action.
2. Republic Steel (Cuyahoga River-Lake Erie): Informal hearing held October 7, 1969.
3. U. S. Steel (Cuyahoga River-Lake Erie): Informal hearing held October 7, 1969.
4. Jones and Laughlin (Cuyahoga River-Lake Erie): Informal hearing held October 8, 1969.
5. City of Toledo (Maumee River): Informal hearing held October 9, 1969.
6. Interlake Steel (Maumee River): Informal hearing held October 9, 1969.

On May 19, 1970, the Secretary of the Interior issued 180-day notices of water quality standards violations as follows:

1. Penn Central Railroad (Hudson River): Informal hearing held June 23, 1970.
2. General Aniline and Film (Arthur Kill): Informal hearing held June 23, 1970.
3. Fairfax Drainage District of Wyandotte County, Kansas (Missouri River): Informal hearing held July 7, 1970.
4. Midwestern Feeding Company (Cedar Creek, and affecting the Platte and Missouri Rivers): This case has been indefinitely postponed.
5. City of Fargo, North Dakota (Red River of the North): Informal hearing held July 10, 1970.

ENFORCEMENT CONFERENCES

During 1970 the following conferences were initiated:

1. Escambia River Basin (Alabama-Florida) - Requested by Governor of Florida
2. Perdido Bay (Florida-Alabama) - Requested by Governor of Alabama
*3. Mobile Bay - First Session (Alabama) - Federal initiative shellfish provisions
4. Biscayne Bay (Florida) - Requested by Governor of Florida
*5. Dade County (Florida) - Requested by Governor of Florida

During 1970 the following conferences were reconvened:

1. Chattahoochee River
2. Potomac River
*3. Lake Michigan
*4. Lake Superior
*5. Lake Erie
*6. Lake Champlain
*7. North Fork of the Holston River (Conference called and postponed)
*8. Merrimack-Nashua Rivers (Workshops)

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*No Summary of Conference and recommendations for action have been issued by the Secretary of the Interior.

1. Escambia River Basin (Alabama-Florida)

This conference was called by the Secretary of the Interior on the basis of a written request from the Honorable Claude R. Kirk, Governor of Florida. The conference covers pollution of the interstate waters of the Escambia River Basin (Alabama-Florida) and the intrastate portions of those waters within the State of Florida. The conference was held on January 20-21, 1970, at Gulf Breeze, Florida.

The pollution problems covered by the conference included the following:

> "The entire upper section of Escambia Bay north of the Louisville and Nashville Railroad Company bridge is in a state of accelerated eutrophication as shown by unstable dissolved oxygen variations resulting from algal activity; high carbon, nitrogen, and phosphorus concentrations; and oxygen demanding sludge deposits. Dissolved oxygen at the bottom of nearly half of the Bay was less than the 4.0 mg/1 criterion established by the State of Florida for these waters. The closely spaced piling under the Louisville and Nashville Railroad Company bridge adversely inhibits circulation, flushing, and exchange between the upper and lower Bay. In Mulat-Mulatto Bayou, dredging and filling for interstate highway construction and residential development, in addition to the above conditions, also contribute to degraded water quality. These conditions are the major causes of the numerous fish kills reported in Escambia Bay and Mulat-Mulatto Bayou during 1969."

The conferees developed a detailed water quality management and waste abatement program which is to be accomplished for the most part by December 31, 1972. The conferees' recommendations were approved by the Secretary of the Interior, and a Summary of Conference, as required by Federal law, was issued.

2. Perdido Bay (Florida-Alabama)

The conference was called by the Secretary of the Interior on the basis of a written request from the Honorable Albert Brewer, Governor of Alabama. The conference covers pollution of the interstate waters of Perdido Bay and its tributaries (Florida-Alabama). The conference was held on January 22, 1970, at Gulf Breeze, Florida.

The conferees' conclusions included the following:

"The St. Regis Paper Company located north of Pensacola in Cantonment, Florida, discharges partially treated paper and pulp waste into Eleven Mile Creek at an average daily rate of approximately 27 million gallons per day. This volume constitutes most of the dry weather flow in Eleven Mile Creek.

"The inadequately treated waste effluent from the St. Regis Paper Company at Cantonment, Florida, is the major cause of the low dissolved oxygen, unsightly foam, excessive sludge deposits, and increased lignin in Perdido Bay and River, as well as degraded water quality in Eleven Mile Creek. Water quality problems in the mouth of Bayou Marcus are caused by the collective discharges to the Bayou from nine small treatment facilities, the most significant of which are the Mayfair, Montclair, and Avondale plants."

To abate the existing pollution in the Perdido River and Perdido Bay, the conferees recommended a detailed water quality management and waste abatement program. The abatement program calls for a high degree of waste treatment to be provided by the St. Regis Paper Company, and also for removal of color and foam from the Company's discharge. Moreover, the conferees recommended that the several small sewage treatment plants on Bayou Marcus be consolidated into a central facility with removal efficiencies of 90 percent for carbonaceous material plus year-round disinfection. All waste abatement facilities are to be in operation by December 31, 1972. The Secretary of the Interior approved the conferees' recommendations and issued a Summary of Conference.

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3. Mobile Bay (Alabama)

The Secretary of the Interior, in accordance with section 10 of the Federal Water Pollution Control Act, as amended (33 U.S.C. 466 et seq.), and his finding that substantial economic injury results from the inability to market shellfish or shellfish products in interstate commerce because of pollution, and the action of Federal, State, or local authorities, on December 16, 1969, called a conference in the matter of pollution of the navigable waters of Mobile Bay and its tributaries (Alabama). The conference was held on January 27-28, 1970, at Mobile, Alabama.

The conferees' conclusions included the following:

"Shellfishing areas in Mobile Bay have been closed by the State of Alabama during portions of eight of the past sixteen years because total coliform densities over the beds exceeded the 70/100 ml total coliform standard for shellfish harvesting.

"The most significant source of coliform pollution to Mobile Bay is the Mobile River. The coliform pollution entering Mobile Bay from the Mobile River is transported down the western shore of the Bay to the major shellfishing areas during flood runoff periods. The great majority of both total and fecal coliforms entering the Bay from the Mobile River originates in the Mobile metropolitan area."

The conferees recommended a detailed pollution abatement program, which would require secondary treatment and adequate disinfection for municipal and industrial waste sources in the conference area. The conferees recommended that abatement measures be in operation no later than February 15, 1973.

The Summary of Conference and recommendations for action have not been issued by the Secretary.

4. Biscayne Bay (Florida)

On the basis of a written request from the Honorable Claude R. Kirk, Jr., Governor of Florida, dated December 1, 1969, the Secretary of the Interior on December 11, 1969, called a conference in the matter of pollution of the navigable waters of Biscayne Bay and its tributaries (Florida) under the provisions of section 10 of the Federal Water Pollution Control Act, as amended. The conference was held on February 24-26, 1970, at Miami, Florida.

The conferees' conclusions included the following:

"Severe local damage has occurred to the aquatic plant and animal population of lower Biscayne Bay due to the present heated effluent of the Turkey Point Plant of the Florida Power and Light Company. This constitutes pollution which is subject to abatement under section 10 of the Federal Water Pollution Control Act. This also constitutes pollution in violation of the State of Florida's and Federal Water Pollution Control Administration's standards, particularly those provisions relating to damages caused by increases in temperature; and the anti-degradation statement.

"Present measures taken toward abatement of this pollution are not adequate. The proposed plan to take large quantities of heated water through a six-mile canal to Card Sound is not acceptable."

The conferees' recommendations included the following:

"The Florida Power and Light Company shall abate the excessive waste heat load being discharged from its Turkey Point power plant to the following levels: The monthly mean of the maximum daily temperatures shall not be raised more than 4°F during the fall, winter, and spring (October through May) or 1.5°F during summer (June through September). On the basis of existing data, this means that existing discharges shall not exceed 90°F at any time.

"Quality of the waters including the biological balance of Biscayne Bay shall not be impaired to the detriment of the full enjoyment and use of the Biscayne National Monument."

The Secretary of the Interior issued the Summary of Conference and made recommendation for actions to be taken by the State of Florida.

5. Dade County (Florida)

On the basis of a written request from the Honorable Claude R. Kirk, Jr., Governor of Florida, dated July 21, 1970, the Secretary of the Interior on September 25, 1970, called a conference in the matter of pollution of the navigable waters of Dade County, Florida, and tributaries, embayments, and coastal waters, under the provisions of section 10 of the Federal Water Pollution Control Act, as amended. The conference was held on October 20-22, 1970, at Miami, Florida.

The conferees concluded that:

1. Pollution of the navigable waters in and adjacent to Dade County, Florida, including the Atlantic Ocean, Biscayne Bay, and tributaries thereto, which endangers health and welfare of persons, is occurring and is subject to abatement under the Federal Water Pollution Control Act. This pollution is caused by discharges from numerous municipal, domestic, and industrial sources within Dade County.

2. Measures taken to abate this pollution have been inadequate.

3. The nature of delays being encountered in pollution abatement are: complexity of the problem; lack of effective planning; financing, and enforcement of pollution control law; and lack of a commitment by the community to meet the pollution problem and abate it.

The conferees agreed upon recommendations for remedial action. A Summary of Conference and letter to the State pollution control agency have been forwarded to the Secretary for action.

1. Chattahoochee River (Georgia-Alabama)

Second Session

The second session of the conference in the matter of pollution of the interstate waters of the Chattahoochee River and its tributaries (Georgia-Alabama) was held on February 17, 1970, Atlanta, Georgia, under the provisions of section 10 of the Federal Water Pollution Control Act, as amended (33 U.S.C. 466 et seq.). The first conference session was held on July 14-15, 1966, at Atlanta.

The conferees reviewed progress with the recommendations of the first conference session, and reaffirmed the pollution abatement deadline of July 1, 1971, established at the first session.

"I am not satisfied with the schedule of proposed actions that would lead to completion of waste treatment facilities in 1977. I am directing the conferees to reassemble to determine what is required to move this date forward to 1974 and to report to me by December 31, 1970, in this regard."

A progress meeting for the conference is planned for December 8-9, 1970.

3. Lake Michigan
(Wisconsin-Illinois-Indiana-Michigan)

Third Session

The third session of the conference was held on March 31 and April 1, 1970. The conferees met in Executive Session on May 7, 1970. Workshop sessions were held on September 28 through October 2, 1970, and the conferees met again on October 29, 1970. The major question involved at these meetings has been control of thermal discharges into the Lake.

The conferees have considered a vast amount of information on thermal pollution and are working toward agreement on a program of thermal controls.

4. Lake Superior
(Minnesota-Wisconsin-Michigan)
Second Session

The second session of the conference in the matter of pollution of the interstate waters of Lake Superior and its tributary basin was held on April 29-30, 1970, at Duluth, Minnesota, and reconvened on August 12-13, 1970, at Duluth, under the provisions of section 10 of the Federal Water Pollution Control Act, as amended (33 U.S.C. 466 et seq.). The first conference session was held on May 13-15, 1969, and was reconvened in Executive Session on September 30 and October 1, 1969. The conference was initiated by the Secretary of the Interior on the basis of reports, surveys, or studies, under procedures described in section 10 of the Act.

At the reconvened conference session held on August 12-13, 1970, reports were presented for the conferees' consideration in accordance with previous conference directives. These included: 1) the report of the Technical Committee on its water quality recommendations for consideration by the States as water quality standards; 2) a supplemental report by the Minnesota Pollution Control Agency on the status of pollution abatement programs for Minnesota waste sources in the conference area; 3) updated reports from Michigan and Wisconsin; and, 4) a report by the Reserve Mining Company.

The conferees recommendations included the following:

"Discharges from Federal installations and waste sources in Minnesota, Wisconsin, and Michigan, as listed in the conference summary, cause pollution endangering the health or welfare of persons in a State other than that in which such discharges originate. This pollution is subject to abatement under the provisions of the Federal Water Pollution Control Act, as amended."

This finding of the conferees is of great importance to this case, as it is the first time the States have agreed unanimously that Reserve Mining Company, in combination with other waste sources, is contributing to interstate pollution, and thus Reserve Mining's contribution is subject to abatement on direct Federal authority, with State consent not required.

The conferees recommended specifically for Reserve Mining Company that:

"The Reserve Mining Company shall provide to the conferees, through the State of Minnesota, preliminary plans by December 1, 1970, for abatement of the pollution from its discharge to

4. Lake Superior Continued

Lake Superior. The conferees will then meet to determine if the pollution abatement plans are acceptable.

The Reserve Mining Company is to provide to the conferees through the State of Minnesota final plans and specifications by September 1, 1971, for accomplishing its remedial program.

Following the approval of the final plans, the conferees will meet to consider adoption of the proposal to be forthcoming from the State of Minnesota on a time schedule for letting of contracts and completion of construction."

The Secretary of the Interior has not issued the Summary of Conference and necessary recommendations for action.

5. Lake Erie
(Michigan-Indiana-Ohio-Pennsylvania-New York)

Fifth Session

At the four previous conference sessions, abatement programs, time schedules, and recommendations for nutrient removal were developed. At the fifth session held in Detroit on June 3-4, 1970, the status of compliance with recommended programs and the problem of mercury pollution were considered.

Workshop sessions were held following the conference in several key areas around the Lake. The conferees planned to reconvene at a later date to develop recommendations for action.

Abatement action in many cases has been unsatisfactory. Eighty-seven waste sources are over a year behind schedule. More stringent Federal enforcement measures will be necessary to obtain compliance in a number of cases.

6. Lake Champlain (New York-Vermont)

Second Session

The second session of the conference in the matter of pollution of the interstate waters of Lake Champlain and its tributary basin was held on June 25, 1970, at South Burlington, Vermont, under the provisions of section 10 of the Federal Water Pollution Control Act, as amended (33 U.S.C. 466 et seq.). The first conference session was held on November 13 and December 19-20, 1968. The conference was initiated by the Secretary of the Interior on the basis of a written request from the Vermont Department of Water Resources, and on the basis of reports, surveys, or studies, under procedures described in section 10 of the Act.

The major problems involved are the waste discharges from the International Paper Company and the sludge deposits which have resulted from the Company's untreated discharge. The sludge deposits are a source of interstate pollution.

The International Paper Company was to have its facilities in operation by July 1, 1970. This deadline has not been met, however, facilities to treat the major waste discharge are expected to be in operation next month. (The Company has under construction a new pulp and paper plant and operations at the old plant, which has no waste treatment, will be phased out as the new facilities become operational.) When the new pulping plant goes into operation in December, discharges at the old plant will then be minor in nature and will not have a significant effect on water quality. All of the new facilities are expected to be in operation by July 1, 1971.

The sludge deposits have been a problem of long standing and will remain an active source of pollution long after the untreated waste discharge from International Paper Company is abated. The State of New York has not developed a definite program and time schedule to correct this problem.

Recommendations have not been issued by the Secretary on this situation. The Summary of Conference, also, has not been issued.

7. North Fork-Holston River
(Virginia-Tennessee)

Third Session

The conference on pollution of the interstate waters of the North Fork of the Holston River has been in two sessions in 1960 and 1962. The only significant source of pollution in the conference area is the Olin Corporation plant at Saltville, Virginia. The plant manufactures 1,000 tons per day of soda ash by the Solvay process. The waste by product from this process is 1,920,000 pounds per day of chlorides.

In the absence of a known effective and feasible treatment process, Olin constructed an impounding dam to store chloride wastes so that they could be discharged when they would do the least damage to the River. The conferees in 1962 agreed that this would alleviate the problem but not solve it.

Technical staff of FWQA have reviewed this problem and concluded that Olin's present practice of waste impoundment with release integrated with River flow is not satisfactory.

The third session of the conference was scheduled to be held in May of this year to consider new information on alternate methods of disposal of chloride wastes. The session was postponed and rescheduled for July 14, 1970. The Virginia Water Control Board then requested a 60-day delay, and the conference was again postponed. The Board requested the delay because of the announcement by Olin that it would phase out operations of the soda ash plant at Saltville by December 31, 1972. During the 60-day period, FWQA was to analyze the proposal of Olin and review the actions of the Virginia Board. (Virginia has agreed to accept Olin's plan).

Although we believe this proposal of Olin to be satisfactory under the circumstances, we do not have a formal and enforceable committment by the State of Virginia that Olin will indeed carry out the proposed shut down within a specified period of time. Preliminary arrangements have been made to reschedule the conference for December 15, 1970.

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8. Merrimack-Nashua Rivers
(New Hampshire-Massachusetts)

Second Session and Workshops

The second session of the conference in the matter of pollution of the interstate waters of the Merrimack River, the Nashua River, and their tributaries (New Hampshire-Massachusetts), and the intrastate portions of those waters within the State of Massachusetts was held on December 18, 1968, in Concord, New Hampshire, under the provisions of section 10, of the Federal Water Pollution Control Act, as amended (33 U.S.C. 466 et seq.).

The first session of the conference was held on February 11, 1964. The conference was initiated on the basis of a written request from the Honorable Endicott Peabody, Governor of Massachusetts, dated February 12, 1963, and on the basis of reports, surveys, or studies, under procedures described in section 10 of the Federal Act.

At the second session, FWQA made detailed recommendations for abatement action. Time schedules for abatement actions were submitted by the States. A conference summary and recommendations were not issued by the Secretary.

Workshop sessions were held on October 20-21, 1970, to review abatement progress and to develop interim dates where necessary in the abatement schedules.

The States agreed to submit interim dates within 30 days.

DIVISION OF WATER QUALITY STANDARDS
OFFICE OF ENFORCEMENT AND STANDARDS COMPLIANCE

October 1970

WATER QUALITY STANDARDS APPROVED UNDER THE FEDERAL WATER POLLUTION CONTROL ACT, AS AMENDED

State	Status	Approval Dates
Alabama	P	2/15/68
Alaska	P	2/20/68
Arizona	FA	9/27/68 1/17/69
*Arkansas	FA	8/07/67 11/19/69
California	PA	1/09/69
Colorado	P	10/21/68 10/09/69
Connecticut	FA	2/15/68 4/21/70
Delaware	P	3/13/68
Florida	FA	1/17/69
*Georgia	F	7/18/67
Hawaii	F	3/13/68
*Idaho	F	8/07/67 2/15/68
Illinois	PA	1/27/68
*Indiana	FA	7/18/67
Iowa	P	1/16/69
Kansas	PA	4/25/69
Kentucky	P	3/20/69
Louisiana	FA	2/12/68 12/17/69
Maine	P	6/03/68 12/12/68
*Maryland	F	8/07/67
*Massachusetts	FA	8/07/67
Michigan	PA	4/17/68
Minnesota	FA	6/18/68 11/26/69
Mississippi	P	5/06/68
Missouri	FA	2/08/68 6/26/68 7/30/70
Montana	FA	2/29/68 1/17/69
Nebraska	FA	12/19/68
Nevada	FA	6/27/68
New Hampshire	FA	8/16/68
New Jersey	PA	3/13/68
New Mexico	FA	7/09/68 11/19/68 8/21/69
*New York	FA	7/18/67 8/07/67
North Carolina	P	5/16/68
*North Dakota	FA	8/07/67 5/22/70
Ohio	PA	3/04/68 9/13/68 1/02/69
Oklahoma	FA	2/28/68 2/17/70
*Oregon	FA	7/18/67 9/13/68 12/17/68 1/16/70
Pennsylvania	F	5/21/68
Rhode Island	P	1/30/68 11/19/68
South Carolina	PA	10/21/68 4/21/69
*South Dakota	F	8/07/67
Tennessee	P	2/28/68
Texas	FA	1/27/68 5/02/69
Utah	FA	12/31/68
Vermont	P	6/27/68
Virginia	FA	1/17/69
Washington	FA	1/22/68
West Virginia	P	5/21/68
Wisconsin	FA	1/24/68
Wyoming	FA	11/27/68
District of Columbia	FA	4/17/68 1/17/69
Guam	FA	6/12/68
Puerto Rico	FA	12/30/68
Virgin Islands	FA	2/28/68 4/28/70

Legend:

FA	Fully approved water quality standards - antidegradation statement included	(28)
F	Approved water quality standards - antidegradation statement not included	(6)
PA	Partially approved water quality standards - antidegradation statement included	(7)
P	Partially approved water quality standards - antidegradation statement not included	(13)

*First ten States to receive full approval from the Secretary of the Interior.

STATUS SUMMARY

	States
Fully approved with antidegradation statement (FA)	28
Standards approved wholly or in part	54
Approved antidegradation statement	35

DIVISION OF WATER QUALITY STANDARDS
OFFICE OF ENFORCEMENT AND STANDARDS COMPLIANCE

STATUS OF EXCEPTIONS TO WATER QUALITY STANDARDS

State	Issues and Status
Alaska	Anti-degradation -- Regional Director working with the State.
California	Temperature Criteria
Colorado	Regional Office confirms positive State action to resolve temperature and anti-degradation issues. Expected formal adoption -- October 13, 1970.
Delaware	Tentative agreement has been reached on outstanding exceptions. A new submittal will be delivered to the Regional Office. Expected in Washington for review October 16, 1970.
Hawaii	Anti-degradation -- Regional Director working with State.
Idaho	Anti-degradation -- Regional Director working with State.
Illinois	DO and temperature criteria and standards for Ohio, Wabash, and Mississippi Rivers. Illinois Pollution Control Board has scheduled for the near future a series of public hearings to correct standards deficiencies.
Kansas	Regional Office reports that agreement has been reached to resolve dissolved oxygen, temperature, bacteria, and secondary treatment provisions. Expected formal adoption before the end of 1970.
Kentucky	Kentucky Water Pollution Control Commission has ratified agreement between Commissioner Dominick and Mr. Pickard. They have prepared a hearing document which will be sent to FWQA, Washington. Public hearing scheduled for November 17. The State adopted the anti-degradation statement and secondary treatment, neither of which has to go to public hearing.
Maryland	Anti-degradation -- Regional Director working with State.
Michigan	Adoption of upgraded temperature criteria is awaiting conclusions of the Lake Michigan Enforcement Conference.
Mississippi	Regional Office confirmed on October 8, 1970, that they are requesting the State to submit informal proposals on temperature and DO criteria for approval.
New Jersey	State has promised to schedule hearings on proposed water quality standards revisions about November 1, 1970.
North Carolina	Anti-degradation and revisions by State to be formally submitted.
Ohio	Adopt odor, temperature and DO criteria for the Mahoning River. Amend Lake Erie criteria. Improve submittal of October 13, 1970, to incorporate Statewide criteria.
Pennsylvania	Anti-degradation -- Reply to State's inquiry on application of anti-degradation policy forwarded for signature of Commissioner October 15, 1970.
Rhode Island	Anti-degradation statement is approvable. Exceptions to implementation plan being worked out by the Regional Office. Expect resubmittal October 16, 1970.

STATUS OF EXCEPTIONS TO WATER QUALITY STANDARDS (Continued)

State	Issues and Status
South Carolina	DO and temperature exceptions remain outstanding on standards. Regional Office and State are setting date for meeting to attempt to resolve these issues.
South Dakota	Regional Office reported that the State will adopt the recommended anti-degradation statement. The State will also adopt a 5 mg/l dissolved oxygen standard for the Big Sioux River when the River's minimum flows are established. Regional Office expects no difficulty in meeting this requirement. Regional Office also reported all other outstanding issues have been resolved. Expected formal adoption before end of current year.
Tennessee	Regional Office confirmed on October 8, 1970, that they have provided State with information regarding a 5 degree temperature rise. State refuses to act until official word is received from Washington. Official notification is under preparation.
Vermont	Proposed revisions have been agreed to by representatives of the State and the Department of the Interior. Hearings are expected to be held in November.
West Virginia	FWQA awaiting reply to the Commissioner's letter of September 8, 1970, requesting improvements to the anti-degradation statement.

DIVISION OF WATER QUALITY STANDARDS
OFFICE OF ENFORCEMENT AND STANDARDS COMPLIANCE

October 1970

STATUS OF EXCEPTIONS TO WATER QUALITY STANDARDS

Standards Fully Approved

Arizona
*Arkansas
Connecticut
Florida
*Georgia
*Idaho
*Indiana
*Maryland
*Massachusetts
Minnesota
Missouri
Montana
Nebraska
Nevada
New Mexico
*New York
*North Dakota
Oklahoma
*Oregon
*South Dakota
Texas
Utah
Washington
Wisconsin
Wyoming
District of Columbia
Guam
Puerto Rico
Virgin Islands

*First ten States to receive full approval from the Secretary of the Interior.

Full Approval Recommended

Louisiana
New Hampshire
Virginia

STANDARDS-SETTING CONFERENCES

State	Issues
Iowa	Secretary of the Interior's standards for the State have been challenged and will go before a hearing. Date of hearing has not been set. The main issue is secondary treatment in the Burlington area.

Under Formal Preparation

State	Issues
Alabama	DO and temperature criteria and anti-degradation.
Georgia	Anti-degradation and upgrading of DO and temperature criteria.
Maine	Maine Environmental Improvement Agency still has not taken satisfactory action on anti-degradation and temperature issues. Formal recommendation for deferral of State Plan approval and for standards-setting conference under preparation.

WATER QUALITY STANDARDS STATUS

			Total	Conditions Good	Conditions Poor
Fully Approved	Arizona Arkansas Connecticut Florida Minnesota Missouri Montana Nebraska Nevada New Mexico North Dakota Oklahoma Oregon Texas Utah Washington Wisconsin Wyoming District of Columbia Guam Puerto Rico Virgin Islands		22	44	
Pending Secretarial Approval	Indiana Louisiana Massachusetts New Hampshire New York Virginia		6		
idegradation Only	Alaska Hawaii Idaho Maryland Pennsylvania South Dakota		6		
Under Negotiation No Substantive Problems	Colorado Delaware Illinois Kansas Kentucky Michigan North Carolina New Jersey Rhode Island Vermont	(10)	16		
Substantive Problems	California Ohio Mississippi South Carolina Tennessee West Virginia	(6)			10
Standards Setting Conferences	Alabama Georgia Iowa Maine		4		

OFFICE OF ENFORCEMENT & STANDARDS COMPLIANC
WATER QUALITY STANDARDS DIVISION
November 5, 1970

WATER QUALITY STANDARDS EXCEPTIONS
PLAN FOR RESOLUTION

STATE	STATE SUBMITTAL TO FWQA
Alaska	1/31/71
California	2/15/71
Colorado	10/26/70
Hawaii	2/15/71
Idaho	1/31/71
Illinois	3/31/71
Kansas	12/15/70
Kentucky	11/31/70
Maryland	1/31/71
Michigan	2/28/71
Mississippi	2/28/71
New Jersey	1/31/71
North Carolina	11/15/70
Ohio	10/23/70
Pennsylvania	2/15/71
South Dakota	1/31/71
Tennessee	2/15/71
Vermont	1/15/71
West Virginia	3/15/71

PART II. STANDARDS SETTING CONFERENCE SCHEDULE

STATE	SERVICE OF NOTICE OF CONFERENCE	CONFERENCE DATE	PUBLICATION OF PROPOSED RULE MAKING	PUBLICATION OF PROPOSED REGULATIONS	STATUS
Alabama	(Pending before Commissioner)				
Georgia					
Iowa	1/16/69	4/8 & 9/69 4/15 & 16/69	11/1/69	5/12/70	State petition for hearing pending.
Maine	(Pending before Secretary.)				

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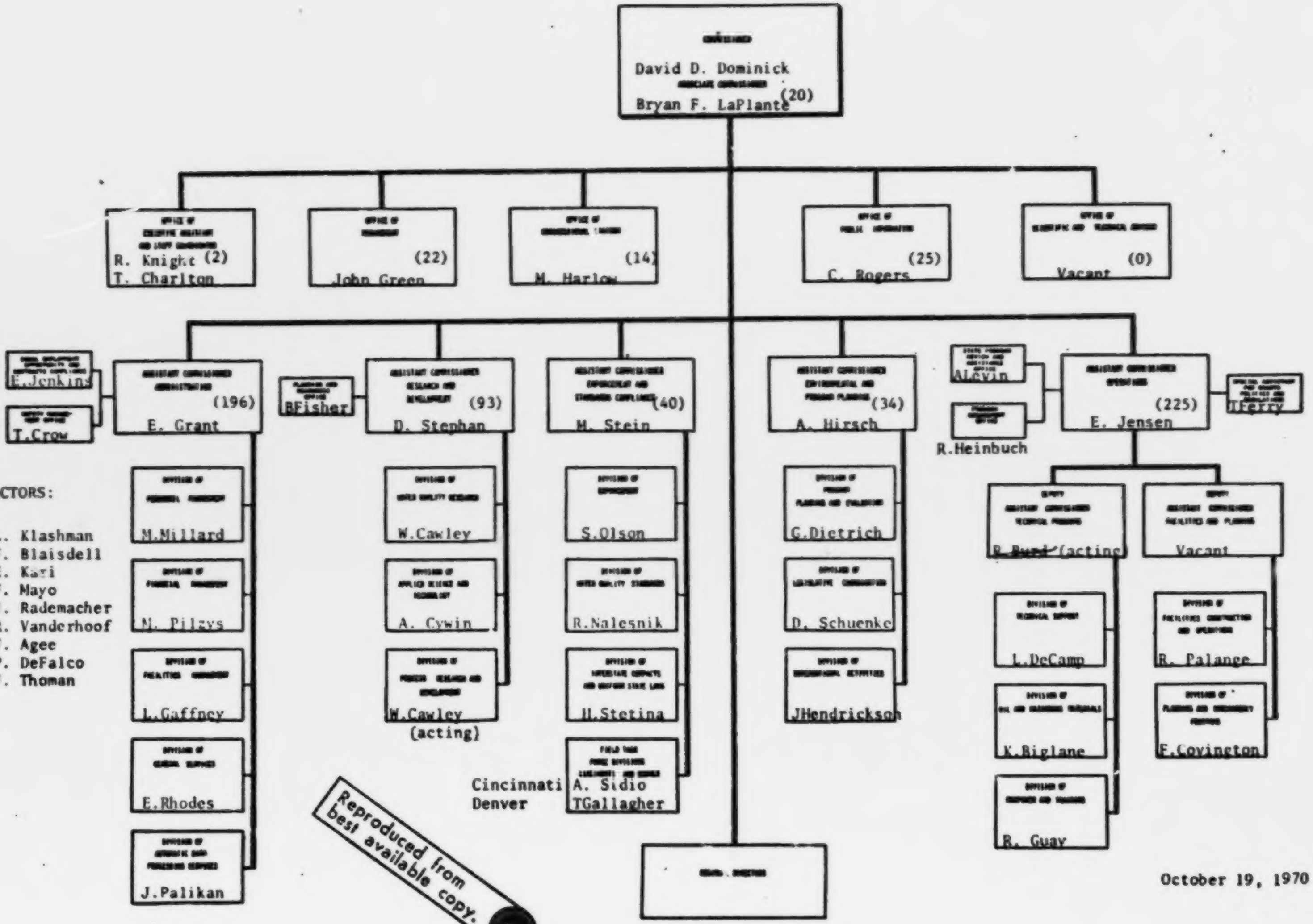
VI. ORGANIZATION


David D. Dominick
Bryan F. LaPlante (20)
R. Knight (2)
T. Charlton
(22)
John Green
(14)
M. Harlow
(25)
C. Rogers
(0)
Vacant
E.Jenkins
T.Crow
(196)
E. Grant
BFisher
(93)
D. Stephan
(40)
M. Stein
(34)
A. Hirsch
ALcvin
R.Heinbuch
(225)
E. Jensen
JTerry
M.Millard
M. Pilzys
L.Gaffney
E.Rhodes
J.Palikan
W.Cawley
A. Cywin
W.Cawley
(acting)
S.Olson
R.Nalesnik
H.Stetina
Cincinnati A. Sidio
Denver TGallagher
G.Dietrich
D. Schuenke
JHendrickson
R.Burd (acting)
Vacant
L.DeCamp
K.Biglane
R. Guay
R. Palange
E.Covington

REGIONAL DIRECTORS:

NE Region - L. Klashman
MA Region - F. Blaisdell
OB Region - E. Kari
GL Region - F. Mayo
MB Region.- J. Rademacher
SC Region - R. Vanderhoof
NW Region - J. Agee
SW Region - P. DeFalco
SE Region - J. Thoman

October 19, 1970

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Office of Congressional Relations

The Office of Congressional Relations, directed by Margery Harlow(557-7377), serves as a focus for all matters directly related to Congress. The Office reports directly to the Commissioner and is the primary adviser on matters of Congressional and legislative interests.

The Office maintains active Congressional liaison on Capitol Hill with the offices of various Congressmen, Senators, their respective staffs and committee staffs. It maintains files on Members of Congress, including activities, requests, and correspondence. It handles telephone and written requests from Congressional offices and notifies appropriate Congressional offices of all grants, contracts, fellowships and awards.

The Office is responsible for all Congressional mail. It assiones and reviews all such mail and prepares and sends interim replies where necessary. The Office contacts the Regional offices where Regional input or personal contact is required.

The Office maintains status reports on all forthcoming Congressional hearings and reports daily to the Commissioner's office and the Assistant Commissioners on scheduled hearings. It is responsible to ensuring personal attendance by FWQA personnel where necessary, and, upon completion of the hearings, reports to the Commissioner.

Office of Management

The Office of Management is directed by John Green (557-7610) and reports directly to the Commissioner. Its principal function is to advise and assist the Commissioner and principal officals of FWQA in matters of organization and management.

The Office exercises control for the administration over organization and manpower. It is responsible for authorizing and controlling personnel ceilings, controlling and publishing delegations of authority, and controlling and publishing organizational structures and distribution of functions.

The Office operates the Agency directives system, forms control, reports control, and other administrstive procedures. It performs studies and surveys to improve procedures and management practices throughout the administration, and it coordinates FWQA responses to audits and inspections by outside agencies.

The Office is presently coordinating the development of information systems, and, in this regard, it is leading a program to develop an integrated information system for the Agency which will tie together management and technical information systems.

The Office is presently responsible for directing the activities of a special programming, planning and budgeting task force. This task force is developing the long-range goals, defining the programs involved, preparing and justifying the annual budget, and advising the Commissioner on legislative and policy issues.

Office of Public Information

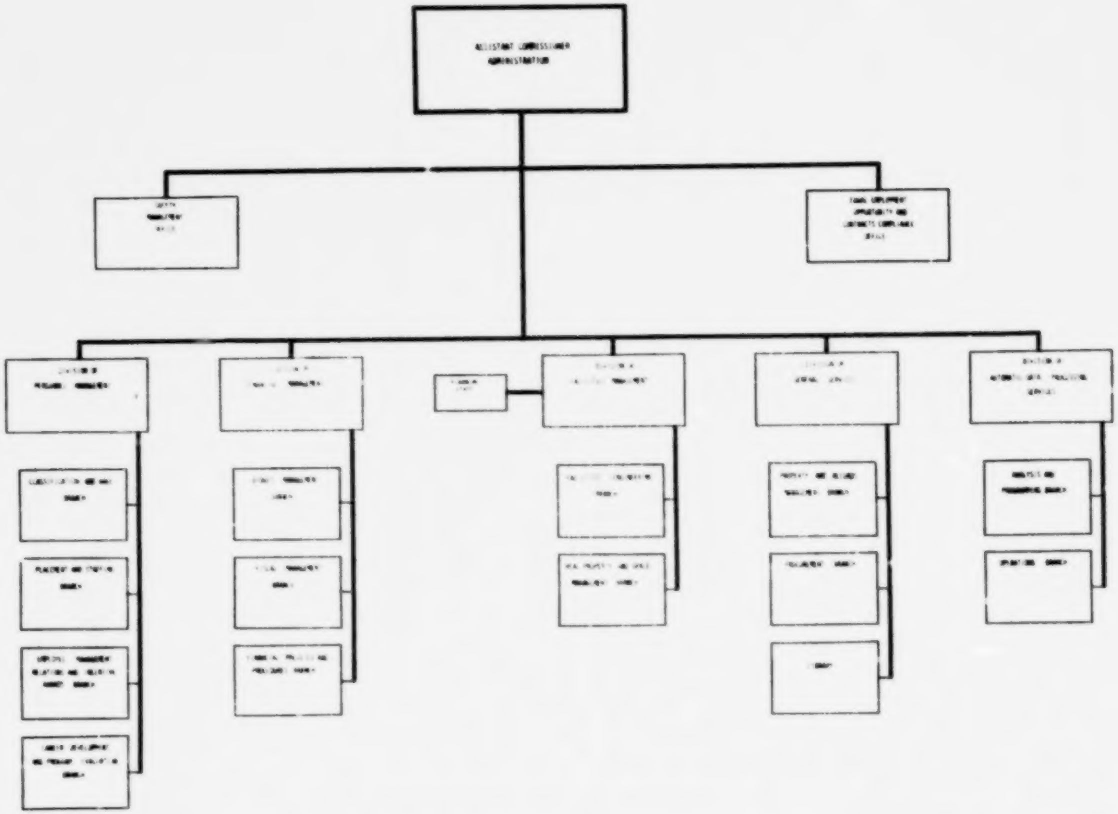
The Office of Public Information is directed by Charles Rogers (557-7604) The basic objective of the Office is to put the facts about water pollution and water pollution prevention and control on the public record.

The Office prepares news releases, handles inquiries from the press and other media, drafts speeches, and writes copy for brochures and other FWQA publications.

The Office has a unit to answer general correspondence, an art shop to provide illustrations and technical expertise for publications, a file of 4,000 water pollution and water pollution control photographs, and a publications distribution center.

The Office recently helped produce FWQA's first movie, "The Gifts." This 28-minute color movie has been shown on commercial TV, broadcast to the entire educational TV network and shown in major theaters.

The Office supervises the preparation of radio and television public service announcements. Eight film spots have been distributed to television networks and stations coast-to-coast. Twenty-five radio "Clean Water" spot announcements were produced by FWQA's public information program. The television and radio spots encourage the public to write "Clean Water" Washington, D. C. for additional information.



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OCT 1 9 1970

Office of Administration

The Office of Administration, under the direction of Assistant Commissioner Edmund Grant (557-7600), is responsible for the development and implementation of programs for personnel management, financial management, facilities management, automatic data processing, safety management, equal opportunity employment and contract compliance, general services, and security. These responsibilities are carried out through five divisions and two offices, as follows.

The Safety Management Office, under Trenton Crow, is responsible for developing programs to achieve and maintain adequate protection for FWQA employees, property, and those for whom it has a responsibility. The Office initiates needed corrective action, including identification of physical hazards, correction of job procedures, and recommendations on policy chages. It distributes technical information and accumulated accident data to appropriate FWQA officials and maintains a defense security roster and security clearances in conformity with Federal regulations.

The Office of Equal Employment Opportunity and Contracts Compliance, under Edgar Jenkins, is responsible for assuring equal employment opportunities in FWQA and for prohibiting discrimination in employment on construction projects receiving FWQA financial assistance and in employment by FWQA contractors.

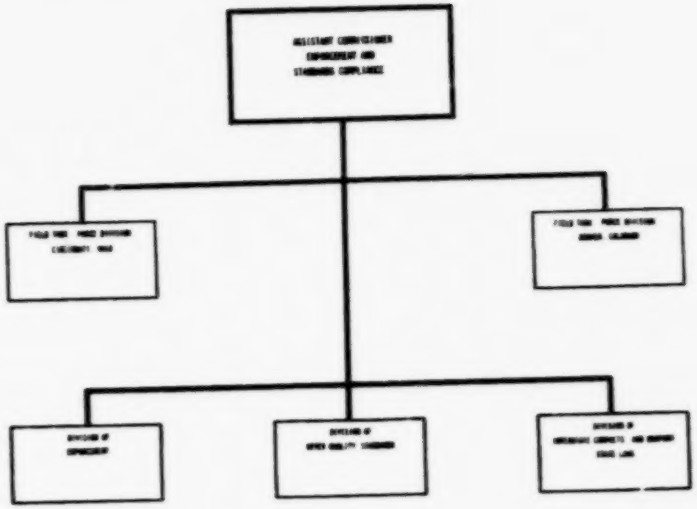
The Division of Personnel Management, headed by Maxine Millard, is the principal staff and service office of FWQA for matters relating to position classification and pay management, employment, training, career planning, employee-management relations and incentive awards.

The Division of Financial Management under Matthew Pilzys is the principal staff and service office of FWQA for matters relating to financial management policy. Through the Assistant Commissioner for Administration, it advises and assists the Commissioner and other key agency officials on all matters pertaining to financial management. It provides leadership and guidance for improved financial management, and it directs the development and interpretation of financial data for FWQA officials, State and local agencies and contractors.

The Division of Facilities Management under Lawrence Gaffney is the principal staff and service office for planning, acquisition, utilization, maintenance, protection, and disposal of all FWQA real property and associated telecommunications and communications resources. It has direct responsibility for design and construction of laboratories and other special purpose facilities.

The Division of General Services under Edward Rhodes is the principal staff and service office for procurement, property management,mail and file operations, printing, duplicating, photography, graphic aids, library and transportation services. The Division coordinates and controls the FWQA records retention program and the security management program for records.

The Division of Automatic Data Processing Services under J. Palikan serves as the FWQA centralized computer facility and focal point for all ADP related services. The Division develops and coordinates Agency-wide policies and procedures for acquiring utilizing and managing data processing and communications equipment and systems, data processing and communications requirements, and training programs for improving and maintaining qualifications and skills in the data processing and communications field.


ASSISTANT COMMISSIONER
ENFORCEMENT AND
STANDARDS COMPLIANCE
FIELD [illegible] DIVISION
CINCINNATI, OHIO
FIELD [illegible] DIVISION
DENVER, COLORADO
DIVISION OF
ENFORCEMENT
DIVISION OF
WATER QUALITY STANDARDS
DIVISION OF
[illegible]
STATE LAW

OCT 1 9 1970

Office of Enforcement and Standards Compliance

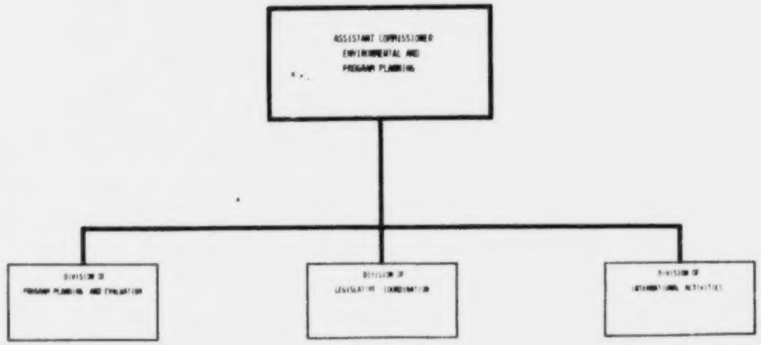
The Office of Enforcement and Standards Compliance, headed by Assistant Commissioner Murray Stein (557-7760), is responsible for development and implementation of FWQA's programs for water quality standards, enforcement, investigations and technical reports, interstate compacts, and uniform State laws. These programs are carried out through three Divisions and two Field Task Forces.

The Division of Enforcement, directed by Sylvester Olson, develops and prepares plans and reports concerning enforcement actions and initiates other related actions necessary to assure compliance with recommendations of enforcement actions. It assists in the conduct of enforcement proceedings and in the planning, direction and supervision of activities directly involved with enforcement action. The Division assembles and coordinates enforcement procedures and findings. It is responsible for the preparation and coordination of enforcement actions resulting from violations of water quality standards adopted for interstate waters or to abate pollution which is endangering the health or welfare of any person. The Division prepares 180-day notifications of water quality standards violations and, where appropriate, prepares recommendations for bringing legal actions under the Refuse Act of 1899.

The Division of Water Quality Standards, headed by Richard Nalesnik, relates to water quality standards all water pollution control activities, including financial assistance, technical assistance, research and development, training, monitoring, basin planning and enforcement. The Division directs and coodinates the establishment and improvement where necessary of State water quality standards. It is responsible for evaluating the technical adequacy of existing water quality criteria and standards and for initiating appropriate changes to keep them current with existing technical knowledge. The Division maintains a continuing awareness of the status of compliance with implementation plans and develops procedures to assure compliance. To assure that the agency-wide objective of achieving water quality standards is maintained, the Division develops requirements for research and technical support, reviews State plans and water pollution control implementation schedules, and coordinates enforcement conference recommendations with standards implementation guidelines.

The Division of Interstate Compacts and Uniform State Laws, headed by Henry Stetina, carries out FWQA's responsibilities under Section 4 of the Federal Water Pollution Control Act, as amended, to encourage the enactment of improved and, so far as practicable, uniform State water quality laws and to encourage interstate compacts for water quality control. The Division's responsibilities include the analysis and review of present and proposed State laws on water quality management and related subjects; the preparation and dissemination of texts and information on suggested State laws and their specific provisions; the review of proposed interstate compacts; and advice to the Commissioner on these matters.

The Office maintains two Field Task Forces: one at Cincinnati under Andrew Sidio and one at Denver under Thomas Gallagher. These Task Forces maintain a mobile group of experienced professional engineers, biologists, chemists, microbiologists, and other professionals for emergency response on a Nation-wide basis to investigate pollution which may or may not constitute violations of Federal, State and local laws. The Task Forces are responsible for conducting water quality investigations and providing expert testimony and advice on a variety of specialized technical subjects in support of the Office of Enforcement and Standards Compliance in connection with 180-day notices and other enforcement proceedings. The Task Forces are also responsible for providing information on methods and procedures for water quality analyses and field work through the development and distribution of publications, lectures, and onsite demonstrations.


ASSISTANT COMMISSIONER
ENVIRONMENTAL AND
PROGRAM PLANNING
DIVISION OF
PROGRAM PLANNING AND EVALUATION
DIVISION OF
LEGISLATIVE COORDINATION
DIVISION OF
INTERNATIONAL ACTIVITIES

OCT 1 9 1970

Office of Environmental and Program Planning

The Office of Environmental and Program Planning, headed by Assistant Commissioner Allan Hirsch (557-7692), has four major areas of responsibility: program planning and evaluation; development and review of legislative proposals, regulations, legal opinions and other legal documents; coordination of international activities; and coordination of activities addressed to environmental issues.

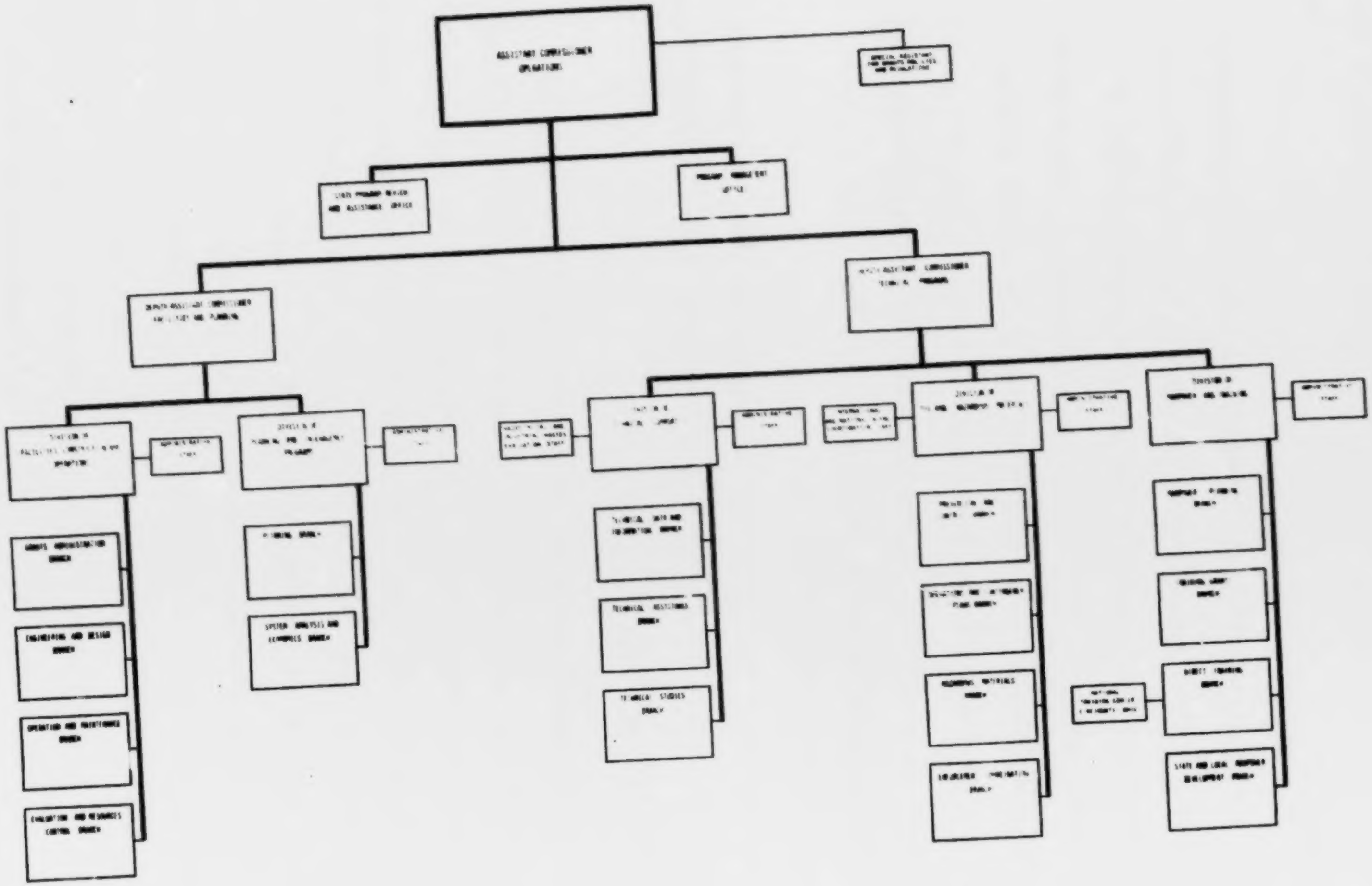
Within the Assistant Commissioner's immediate office, coordination of FWQA responsibilities under the National Environmental Policy Act of 1969, including the preparation of environmental impact statements and the review of such statement pertaining to water quality and prepared by other Federal agencies, is carried out. The office is also responsible for coordination of FWQA's involvement in nationally significant environmental issues, such as the Miami Jetport. (Regionally significant issues are handled by the Regional Office.)

The other responsibilities of the Office of Environmental and Program Planning are carried out through three Divisions.

The Division of Program Planning and Evaluation, directed by Gary Dietrich, is responsible for directing FWQA's program planning system and for preparing the annual Program Memorandum and other PPB materials submitted to the Office of Management and Budget through the Department. The Division works with the Office of Financial Management in translating program plans into budget documents. It coordinates FWQA's work planning system under which work plans for the Regional Offices are formulated and approved and revised as necessary during the operating year. These work plans provide the basis for allocating appropriations among programs and among Regional and Headquarters Offices. The Division is also responsible for preparing or coordinating the preparation of various evaluative studies, new program proposals, new policies and problem analyses.

The Division of Legislative Coordination, directed by David Schuenke, drafts legislative proposals to be submitted to the Congress or considered by the Department for submittal. The Division also comments on legislative proposals developed outside of FWQA but impacting water quality control. The Division is responsible for drafting regulations to implement existing legislation and for drafting legal opinions and preparing other legal materials.

The Division of International Affairs, directed by John Hendrickson, coordinates FWQA's participation in the activities of the International Joint Commission and other joint activities with Canada. It also coordinates FWQA's participation in international conferences, exchange visits, and other international visits.


ASSISTANT COMMISSIONER OPERATIONS
STATE PROGRAM REVIEW AND ASSISTANCE OFFICE
PROGRAM MANAGEMENT OFFICE
DEPUTY ASSISTANT COMMISSIONER FACILITIES AND PLANNING
DEPUTY ASSISTANT COMMISSIONER TECHNICAL PROGRAMS
ADMINISTRATIVE STAFF
GRANTS ADMINISTRATION BRANCH
ENGINEERING AND DESIGN BRANCH
OPERATION AND MAINTENANCE BRANCH
EVALUATION AND RESOURCES CONTROL BRANCH
PLANNING BRANCH
SYSTEM ANALYSIS AND ECONOMICS BRANCH
TECHNICAL DATA AND INFORMATION BRANCH
TECHNICAL ASSISTANCE BRANCH
TECHNICAL STUDIES BRANCH
HAZARDOUS MATERIALS BRANCH
DIRECT TRAINING BRANCH
STATE AND LOCAL MANPOWER DEVELOPMENT BRANCH

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Office of Operations

The Office of Operations is under the direction of Assistant Commissioner Eugene Jensen (557-7743). The office is responsible for the supervision of the national programs for providing adequately trained personnel to meet national water pollution control and abatement manpower requirements; assisting and enhancing State and local water pollution control efforts; conducting and/or participating in geographically based planning and interagency activities which affect water quality; providing necessary technical support and assistance on pollution problems and their solution to other Administration programs, other Federal agencies, State and local agencies, and industries; and preventing and controlling pollution from the discharge of oil and hazardous materials. The office carries out these responsibilities through five Divisions and one Office.

The Office of State Program Review and Assistance, headed by Alan Levin, administers a block grant program which includes Federal guidance, assistance and review of State and interstate plans for the water quality programs. A total of $10 million is distributed annually to States and interstate agencies on a formula grant matching basis. The office serves the important function of interprogram coordination through the coordinating documents of the annual operating plans of State programs and an associated information reporting system. This reporting system consolidates requests for FWQA grants and technical assistance support, information on compliance with water quality standards, and the identification of priorities for waste treatment works construction. The State program grant is a valuable mechanism for impacting the State water pollution control programs and to improve this mechanism the office is presently developing an appraisal system for State programs.

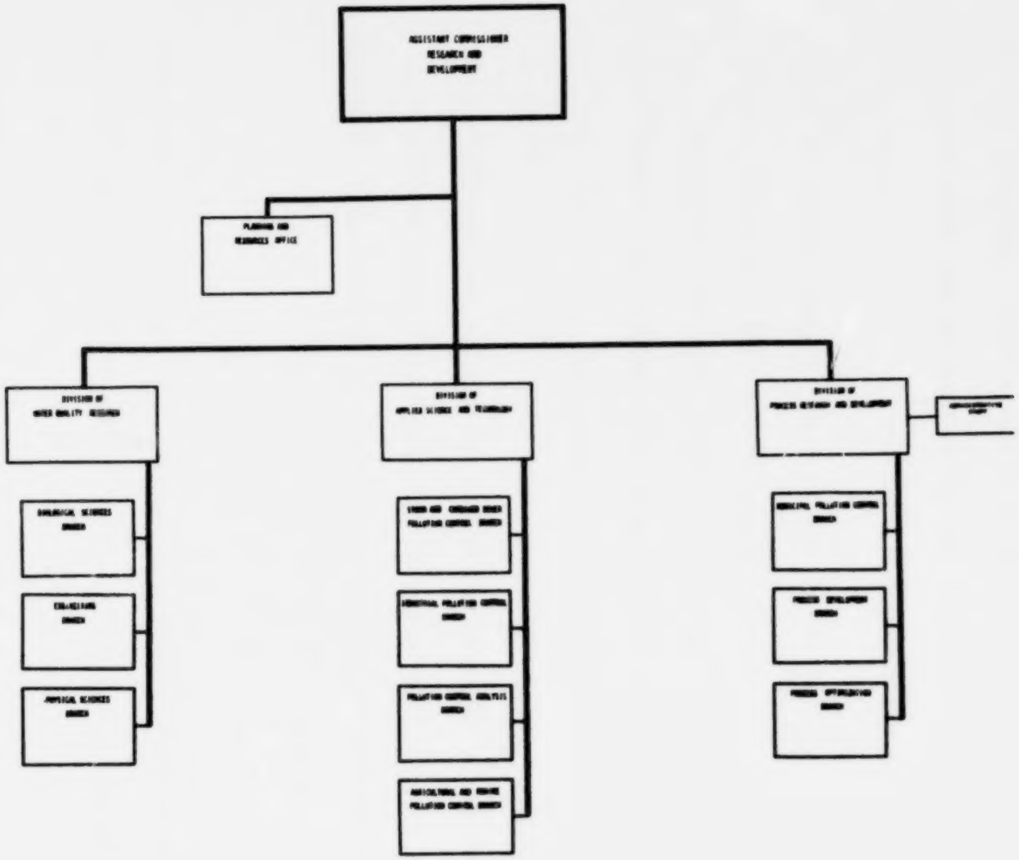
The Division of Facilities Construction and Operation, headed by Ralph Palange, is responsible for the Section 8 construction grant program for municipal waste treatment facilities. In addition to administering the grant program, the Division has responsibilities for ensuring that Federally assisted projects are cost-effective and conform to sound river basin and regional or metropolitan water quality plans. The Division is also responsible for ensuring that these facilities are properly designed, and properly maintained and operated after completion.

The Division of Planning and Interagency Program, headed by Frank Covington, develops and coordinates the water quality management program for river basins and metropolitan areas and administers 3(c) planning grants programs. It provides official estimates of national requirements and costs of meeting water quality standards, including economic impacts on government and financing mechanisms. The Division directs a program to assure that Federally licensed or owned facilities comply with water quality standards, and, in this regard, has an important function in connection with the Army Corps of Engineers permit system under the Refuse Act of 1899. The Division also assures coordination among intra- and inter-agency groups concerning specific program responsibilities and cooperates with the Assistant Commissioner for Environmental and Program Planning in interagency coordination of emerging environmental problems.

The Division of Technical Support, headed by Louis DeCamp, is responsible for the collection and dissemination of data on water pollution. It plans and directs field investigations in support of other FWQA programs, and provides technical technical assistance to public and private agencies, institutions and individuals in investigations, demonstrations and studies. The Division also applies technological expertise to solving special water pollution problems.

The Division of Oil and Hazardous Materials, under Kenneth Biglane, carries out a nationwide program to develop effective methods for combating oil and hazardous spills, techniques and regulations to prevent them, and mechanisms for responding and cleaning up the effects. The Headquarters Office is coupled with Regional teams to respond to such discharges.

The Division of Manpower and Training, under Richard Guay, plans, develops and coordinates a national program to assure the continued availability of skilled, trained, and motivated work force for the prevention, control and abatement of water pollution; forecasts manpower supplies and demands; awards grants, contracts, scholarships and research fellowships for manpower development and training; conducts a direct training program; develops and conducts projects to relate trained manpower to employment opportunities and needs.


ASSISTANT COMMISSIONER
RESEARCH AND
DEVELOPMENT
PLANNING AND
RESOURCES OFFICE
DIVISION OF
WATER QUALITY RESEARCH
BIOLOGICAL SCIENCES
BRANCH
ENGINEERING
BRANCH
PHYSICAL SCIENCES
BRANCH
DIVISION OF
APPLIED SCIENCE AND TECHNOLOGY
STORM AND COMBINED SEWER
POLLUTION CONTROL BRANCH
INDUSTRIAL POLLUTION CONTROL
BRANCH
POLLUTION CONTROL ANALYSIS
BRANCH
AGRICULTURAL AND MARINE
POLLUTION CONTROL BRANCH
DIVISION OF
PROCESS RESEARCH AND DEVELOPMENT
MUNICIPAL POLLUTION CONTROL
BRANCH
PROCESS DEVELOPMENT
BRANCH
PROCESS OPTIMIZATION
BRANCH

1970

Office of Research and Development

The Office of Research and Development, headed by Assistant Commissioner David Stephan (557-7311) directs the development and implementation of FWQA's national research, development and demonstration program, including program policies, standards and procedures. The office carries out these responsibilities through three Divisions and one Office.

The Planning and Resources Office, headed by Bruce Fisher, serves as the central coordination and information point for the FWQA's program. It is responsible for administering the office's plans, programs, resources, and budgets. It maintains logs of all research, development, and demonstration grant and contract proposals and maintains commitment, obligation, and voucher payment registers. It is responsible for the project coordination system for inhouse grant and contract projects, the project reports system for acquisition, storage, retrieval, and dissemination of scientific and technical information and the program management system to support planning, programming, and budgeting.

The Division of Water Quality Research, headed by William Cawley, conceives, plans, and coordinates, and directs those portions of the program which concern eutrophication and lake pollution; thermal pollution; identification, source, fate, and persistence of pollutants including pesticides; water quality requirements for various uses of water. The Division utilizes integrated in-house, contract, and grant activities with projects ranging from laboratory studies to pilot plants, field evaluations, and full-scale demonstrations.

The Division of Applied Science and Technology, headed by Allen Cywin, plans, coordinates and directs those portions of the program which concern advanced science and technology for preventing, controlling and abating pollution due to storm and combined sewer flows, industrial sources, agricultural sources, mining, and other sources of pollution. It is responsible for developing new or improved regional pollution abatement programs for watersheds, lakes, and estuaries, and new and improved technology in these areas. The Division confirms or establishes the performance, reliability, efficiency, costs, and economics of the new and improved technology, and encourages their effective and efficient utilization. It utilizes integrated in-house, contract, and grant activities with projects ranging from laboratory studies through pilot plant development, field evaluations, and full-scale demonstrations.

The Division of Process Research and Development, headed by William Cawley, conceives, plans, coordinates, and directs those portions of the program which concern advanced waste treatment, ultimate disposal, water renovation, and water quality control. It seeks the new and improved technology needed to achieve water quality standards and to facilitate reuse of waste waters. The Division utilizes integrated in-house, contracts, and grant activities with projects ranging from theoretical and experimental feasibility studies through laboratory and bench-scale demonstrations to full-scale demonstrations.

Regional Offices

The Regional Office under the direction of a Regional Director is responsible for the development, implementation and coordination of Regional efforts to translate National policies into effective action programs. The Director is charged with assuring that Regional programs are alert to State and interstate legislation and technical developments and keeps Headquarters advised of those developments significant in the development of National policies. The Director develops and implements Regional-level policies necessary for the conduct and effective articulation of all Regional programs. He maintains effective working contacts with senior State and local officials, and, as appropriate, with State and Federal legislators. He also provides for effective management of and utilization of Regional resources.

FWQA has nine Regional Offices, as follows:

The Northeast Regional Office; Boston, Massachusetts
    Regional Director -- Lester Klashman (617-223-7210)

The Middle Atlantic Regional Office; Charlottesville, Virginia
    Regional Director -- Frank Blaisdell (703-296-1376)

The Southeast Regional Office; Atlanta, Georgia
    Regional Director -- John Thoman (404-526-5727)

The Ohio Basin Regional Office; Cincinnati, Ohio
    Regional Director -- Earl Kari (513-871-6200)

The Great Lakes Regional Office; Chicago, Illinois

Regional Director -- Francis Mayo (312-353-5250)

The Missouri Basin Regional Office; Kansas City, Missouri

Regional Director -- John Rademacher (816-374-5493)

The South Central Regional Office; Dallas, Texas

Regional Director -- Richard Vanderhoof (214-749-2161)

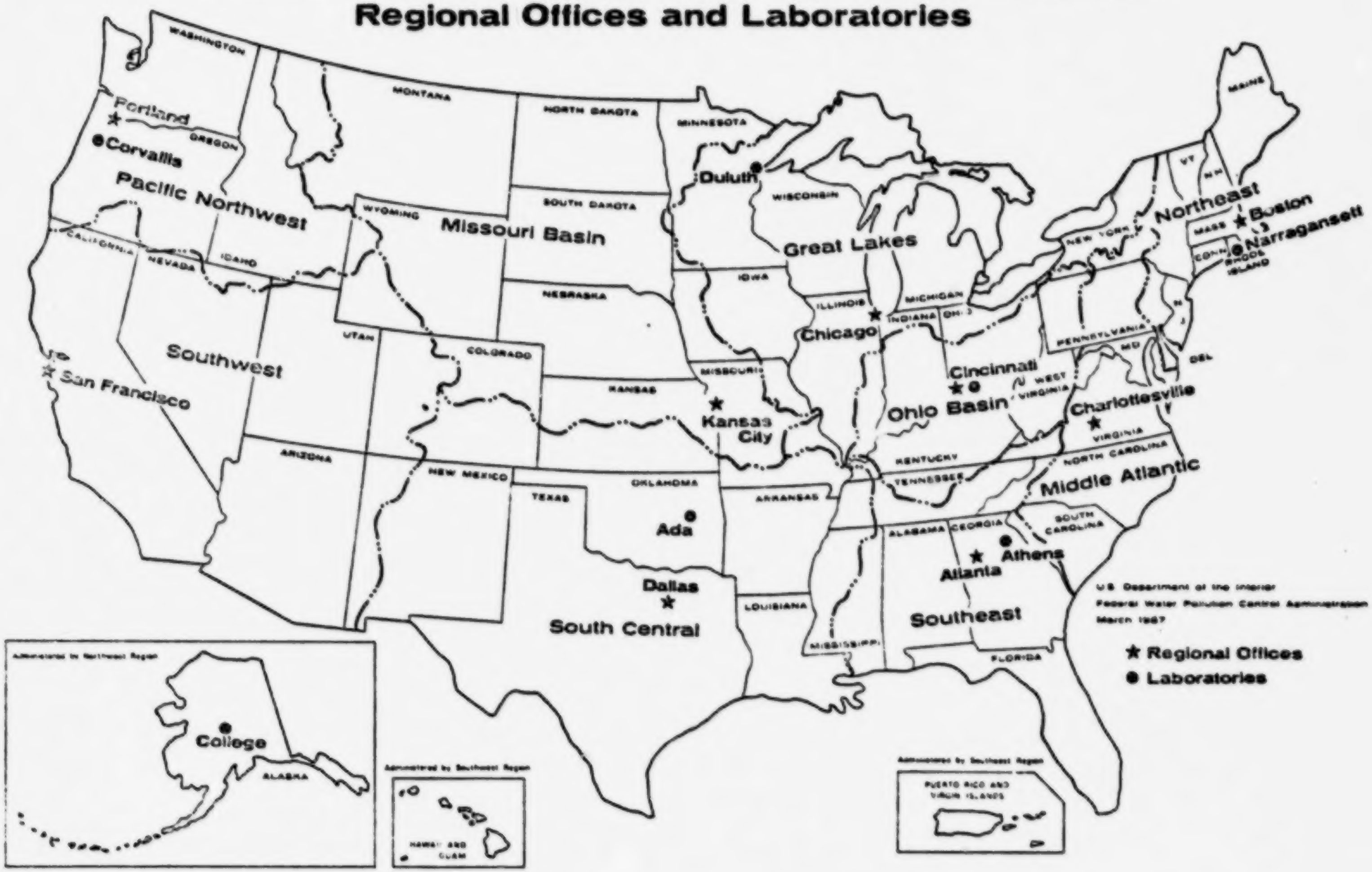
The Southwest Regional Office; San Francisco, California

Regional Director -- Paul DeFalco (415-556-5876)

The Northwest Regional Office; Portland, Oregon

Regional Director -- James Agee (503-226-3915)

Federal Water Pollution Control Administration
Regional Offices and Laboratories


WASHINGTON
OREGON
CALIFORNIA
NEVADA
IDAHO
MONTANA
WYOMING
UTAH
COLORADO
ARIZONA
NEW MEXICO
NORTH DAKOTA
SOUTH DAKOTA
NEBRASKA
KANSAS
OKLAHOMA
TEXAS
MINNESOTA
IOWA
MISSOURI
ARKANSAS
LOUISIANA
WISCONSIN
ILLINOIS
MICHIGAN
INDIANA
OHIO
KENTUCKY
TENNESSEE
MISSISSIPPI
ALABAMA
GEORGIA
FLORIDA
SOUTH CAROLINA
NORTH CAROLINA
VIRGINIA
WEST VIRGINIA
PENNSYLVANIA
NEW YORK
MD
DEL
N J
VT
N H
MAINE
MASS
CONN
RHODE ISLAND
Portland
Corvallis
Pacific Northwest
Southwest
San Francisco
Missouri Basin
Duluth
Great Lakes
Chicago
Kansas City
Ada
Dallas
South Central
Cincinnati
Ohio Basin
Charlottesville
Middle Atlantic
Atlanta
Athens
Southeast
Northeast
Boston
Narragansett
Administered by Northwest Region
College
ALASKA
Administered by Southwest Region
HAWAII AND GUAM
Administered by Southeast Region
PUERTO RICO AND VIRGIN ISLANDS
U.S. Department of the Interior
Federal Water Pollution Control Administration
March 1967
★ Regional Offices
● Laboratories

VII. KEY PERSONNEL

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DAVID D. DOMINICK
Commissioner
Federal Water Quality Administration
Federal Executive Salary Schedule - Level V

PERSONAL DATA	Born January 24, 1937; Philadelphia, Pennsylvania Married; US Marine Corps 1960-63, Captain (top honor graduate Marine Corps Officer's Basic School).	
EDUCATION AND EXECUTIVE TRAINING	Pomfret School; Pomfret, Connecticut; June 1955 Yale University; 1956-60; AB Anthropology 1960 (honors program) University of Colorado; School of Law; 1963-66 JD Law 1966	
EMPLOYMENT HISTORY	3-69 to Present	FWQA; Commissioner; Arlington, Virginia; Federal Executive Salary Schedule - Level V
	1-66 to 3-69	Legislative Assistant to Senator Clifford P. Hansen; Washington, D.C.
	6-65 to 9-65	Research Assistant, U.S. Senate
HONORS, AWARDS AND FELLOWSHIPS	Rocky Mountain Mineral Law Foundation Award for Scholarship and Research, 1966 Wyoming State Bar Association Colorado State Bar Association American Bar Association Sierra Club Wyoming Wildlife Federation Wyoming State Historical Society	

BRYAN F. LAPLANTE
Associate Commissioner
Federal Water Quality Administration GS-301-18

PERSONAL DATA	Born October 20, 1915; Mine LaMotte, Missouri Married; U.S. Air Force 1943-46	
EDUCATION AND EXECUTIVE TRAINING	Flat River High School; Flat River, Missouri; May 1934 Washington University; 1934-37; Law and Business Jefferson College; 1937-38; RE Law	
EMPLOYMENT HISTORY	8-69 to Present	FWQA; Associate Commissioner; Arlington, Virginia; GS-301-18
	4-62 to 8-69	Acting Director, U.S. Senate Republican Policy and Conference Committee; Washington, D.C.
	11-59 to 4-62	Director, Mitre Corporation; Washington Office; Washington, D.C.
	11-58 to 11-59	Associate, Joyce & Fisher Associates; Washington, D.C.
	7-46 to 11-58	Chief, Headquarters Security Operations; Special Assistant to General Manager; U.S. Atomic Energy Commission; Washington, D.C. GS-17
HONORS, AWARDS AND FELLOWSHIPS	Certificate of Special Achievement - American Legion Sustained Superior Performance Award - U.S. Atomic Energy Commission Post Commander, National Defense Post - American Legion Member, American Society for Industrial Security	

ROBERT H. KNIGHT, JR.
Executive Assistant
Federal Water Quality Administration, GS-301-14

PERSONAL DATA

Born September 20, 1941; Hampton, Virginia; Married
U.S. Marine Corps 1959-63

EDUCATION AND EXECUTIVE TRAINING

Storm King School; Cornwall, New York; June 1959
Yale University; 1963-67; AB English

EMPLOYMENT HISTORY

5-70 to Present	FWQA; Executive Assistant; Arlington, Virginia; GS-301-13 & 14
8-69 to 5-70	Department of the Interior; Office of the Secretary; Office of the Assistant Secretary for Water Quality and Research - Staff Assistant; GS-301-13
4-69 to 8-69	U.S. Treasury; National Security Affairs; Staff Assistant; GS-301-12
4-68 to 3-69	Republican National Committee Special Assistant to the Director of Research

HONORS, AWARDS AND FELLOWSHIPS

Quality Increase, 1970
Special Act or Service Award, 1969
Republican candidate for Connecticut General Assembly, 1966

THOMAS J. CHARLTON
Regional Staff Coordinator
Federal Water Quality Administration, GS-1301-14

PERSONAL DATA	Born July 12, 1934; Savannah, Georgia Single; U.S. Marine Corps 1957-59	
EDUCATION AND EXECUTIVE TRAINING	St. Paul's School, Concord, N.H.; June 1952 Yale University, New Haven, Conn.; 1952-56; Mechanical Engineering	
EMPLOYMENT HISTORY	9-70 to Present	FWQA; Regional Staff Coordinator
	2-69 to 8-70	Project Engineer; Williams Bros. Co.; National Bank of Tulsa, Tulsa, Oklahoma
	1960 to 1969	Partner; Quible and Charlton, P.O. Box 416, Chase City, Va.; (Consulting Eng. Surveyors)
	1964 to 1969	Secretary; Quible - Charlton Corp., same address as above (Construction)
	1959 to 1960	Assistant to Director; Comm. on Enrollment and Scholarships, Admissions Office, Yale University (Admissions Office) New Haven, Conn.
HONORS, AWARDS AND FELLOWSHIPS	Professional Engineer (Virginia, Connecticut, South Carolina)	

JOHN A. GREEN
Director, Office of Management
Federal Water Quality Administration, GS-1301-15

PERSONAL DATA	Born April 15, 1918; Newark, New Jersey; Married; U.S. Air Force 1943-69	
EDUCATION AND EXECUTIVE TRAINING	Newark High School; Newark, New Jersey; June 1936 Holy Cross College; 1938-42; BS Chemistry LaSalle Extension University - Common Law	
EMPLOYMENT HISTORY	9-69 to Present	FWQA; Physical Science Administrator, Office of Management; Arlington, Va.; GS-1301-15
	7-68 to 9-69	U.S. Air Force; Colonel; Assistant Chief, Surveillance and Continental Systems Division; Arlington, Virginia
	7-67 to 7-68	U.S. Air Force; Colonel, Deputy Director for Operations and Training; Saigon, Vietnam
	1966 to 1967	U.S. Air Force; Colonel; Commanding Officer; 86th Air. Div.; Ranstein AB., Germany
	1964 to 1966	U.S. Air Force; Colonel; Chief, Weapons Exercise Branch; Fontainbleau, France
	1960 to 1964	U.S. Air Force; Maj. & Lt. Col.; Director of Operations; Colorado Springs, Colorado
	1952 to 1960	U.S. Air Force; Major; Squadron and Air Station Commander; U.S., Canada, Thailand
	1951 to 1952	U.S. Air Force; Captain; Military Advisor; Southeast Asia
	1943 to 1951	U.S. Air Force; 2nd Lt. to Captain; Squadron Commander and Aviation Cadet; U.S. & Europe

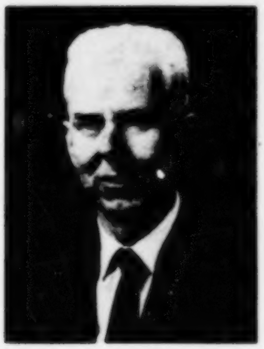
CHARLES M. ROGERS

Director, Office of Public Information
Federal Water Quality Administration, GS-1081-15

PERSONAL DATA	Born September 11, 1923; Boston, Massachusetts Married; U.S. Navy 1943-46	
EDUCATION AND EXECUTIVE TRAINING	B.C. High; Boston, Massachusetts; 1941 Boston College; 1941-47; AB English Brown University; 1943-44; Certificate Catholic University; 1947-49; MA Communication Arts Georgetown University Law School; 1956	
EMPLOYMENT HISTORY	6-66 to Present	FWQA; Director, Office of Public Information; Arlington, Virginia; GS-1081-15
	1-61 to 6-66	Office of the Secretary; Office of Public Information; Public Information Specialist; Washington, D.C.; GS-1081-14 & 15
	12-58 to 1-61	National Institute of Health; Information Officer; Bethesda, Maryland; GS-010-12 & 13
	7-56 to 11-57	U.S. Conference of Mayors; Assistant to the Executive Director; Washington, D.C.
	4-56 to 6-56	U.S. Information Agency; Contract Writer; Washington, D.C.
	5-52 to 4-56	Teamsters Union; Assistant to the Director of Public Relations; Washington, D.C.
	6-50 to 5-52	Radio Station WEW; Radio News Director; St. Louis, Missouri
HONORS, AWARDS AND FELLOWSHIPS	Public Relations Society of America, Thoth Award for professional excellence, 1968 and 1969.	

MARGERY G. HARLOW
Acting Director, Office of Congressional Relations
Federal Water Quality Administration, GS-301-13

PERSONAL DATA	Born January 11, 1943; Washington, D.C. Single	
EDUCATION AND EXECUTIVE TRAINING	Washington-Lee High School, Arlington, Va.; June 1960 Randolph-Macon Woman's College, Lynchburg, Va.; 1960-1962 George Washington University, Washington, D.C.; 1962-1964 BA Public Affairs	
EMPLOYMENT HISTORY	7-70 to Present	FWQA; Office of Congressional Relations
	1-69 to 6-70	Staff Assistant to the Vice President of the United States, Washington, D.C.
	11-68 to 1-69	Executive Assistant, 1968 Transition Committee, Washington, D.C.
	2-65 to 11-68	Press Secretary to U.S. Senator Peter Dominick, Washington, D.C.
	6-64 to 11-64	Campaign Executive Assistant, Republican National Committee, Washington, D.C.
	6-61 to 2-65	Secretary, Office of U.S. Senator Everett Dirkson, Washington, D.C.



EUGENE T. JENSEN
Assistant Commissioner for Operations
Federal Water Quality Administration, GS-1301-17

PERSONAL DATA

Born March 12, 1921; Woodstock, Illinois; Married
U.S. Air Force 1942-46; Public Health Service 1949-66

EDUCATION AND EXECUTIVE TRAINING

Harlan High School; Harlan, Indiana; 1949
Colorado State University; 1946-49; BS Civil Engineering (cum laude)
University of Michigan; 1959-60; MPH Public Health

EMPLOYMENT HISTORY

3-70 to Present	FWQA; Assistant Commissioner for Operations; Arlington, Virginia; GS-1301-17
6-68 to 3-70	FWQA: Regional Director, Middle Atlantic Region; Charlottesville, Virginia; GS-1301-15 & 16
3-67 to 6-68	FWQA; Physical Science Administrator; Division of Technical Services; Washington, D.C.; GS-1301-15
1960 to 1967	PHS; Chief, Shellfish Sanitation Branch; Division of Environmental Engineering and Food Protection; Washington, D.C.; Commissioned Corps
1955 to 1960	PHS; Chief, Shellfish Section; Office of Solid Wastes; Washington, D.C.; Commissioned Corps
1953 to 1955	PHS; Shellfish Section Staff Assistant, Washington, D.C.; Commissioned Corps
1951 to 1953	PHS; Assistant Sanitary Engineer; San Francisco, California; Commissioned Corps
1950 to 1951	PHS; County Supervisor; Atlanta, Georgia; Commissioned Corps

HONORS, AWARDS AND FELLOWSHIPS

Presidential Appointment to Commission on the Potomac River Basin
Citation, Oyster Institute of North America, 1966
Nation Defense Service Medal, 1964
DHEW Superior Service Award, 1964
Delta Omega, Phi Kappa Phi - Honorary Fraternities

DAVID G. STEPHAN
Assistant Commissioner for Research and Development
Federal Water Quality Administration, GS-1301-17

PERSONAL DATA	Born February 8, 1930; Columbus, Ohio; Married U.S. Public Health Service 1955-63	
EDUCATION AND EXECUTIVE TRAINING	Upper Arlington High School, Columbus, Ohio, 1947 Ohio State University, 1947-55; BS, MS, PhD, Chemical Engineering	
EMPLOYMENT HISTORY	6-69 to Present	FWQA; Assistant Commissioner for Research and Development; Arlington, Va.; GS-1301-17
	5-67 to 6-69	FWQA; Chief, Research Division; Office of Research and Development; Washington, D.C.; GS-1301-16
	2-65 to 5-67	FWQA; Deputy Chief, Basic and Applied Sciences Branch; Division of Water Supply and Pollution Control; Washington, D.C.; GS-1301-15
	1-64 to 2-65	FWQA; Supervisory Regional Chemical Engineer; Advanced Waste Treatment Research Program; Cincinnati, Ohio; GS-893-15
	11-60 to 1-64	PHS; Directory of Sanitary Engineering; Robert A. Taft Center; Cincinnati, Ohio
	11-55 to 11-60	PHS; Senior Sanitary Engineer; Air Pollution Research Engineer; Assistant Sanitary Engineer; Robert A. Taft Center; Cincinnati, Ohio
	4-55 to 10-55	AEC Technologist "A"; Feed Materials Production Center
	6-52 to 3-55	Battelle Memorial Institute; Research Associate
HONORS, AWARDS AND FELLOWSHIPS	Sustained Superior Performance Award, 1965 Phi Eta Sigma, Phi Lamda Upsilon, Tau Beta Pi, Texnikoi, Sigma Xi - Honorary Fraternities Bareis Calculus Award - 1st Prize American Institute of Chemical Engineers National Award Phi Lamda Upsilon Award - Outstanding Senior Battelle Memorial Institute Fellowship - 3 Years	

EDMUND J. GRANT
Assistant Commissioner for Administration
Federal Water Quality Administration, GS-341-16

PERSONAL DATA	Born December 24, 1922; New Haven, Connecticut; Married U.S. Army 1943-46 and 1951-53	
EDUCATION AND EXECUTIVE TRAINING	New Haven High School; New Haven, Connecticut; June 1939 Saint Francis Xavier University; 1939-40 Fordham University; 1940-43	
EMPLOYMENT HISTORY	11-67 to Present	FWQA; Assistant Commissioner for Administration; Arlington, Va.; GS-341-16
	2-63 to 11-67	DHEW; Deputy Director of Personnel, Washington, D.C.; GS-201-15 & 16
	5-62 to 2-63	DHEW; Assistant to the Director of Personnel; Washington, D.C.; GS-201-14
	6-61 to 5-62	U.S. Civil Service Commission; Director of Intern Programs; Washington, D.C.; GS-235-14
	4-61 to 6-61	Department of Army; Personnel Officer; Washington, D.C.; GS-201-13
	11-56 to 3-61	Department of Army; Employee Utilization Officer; Washington, D.C.; GS-201-13
	3-53 to 11-56	The Engineer School; Ft. Belvoir Supervisory Training Instructor; Ft. Belvoir, Virginia; GS-1710-12
	10-46 to 3-51	The Engineer School; Ft. Belvoir Training Instructor; Ft. Belvoir, Virginia
HONORS, AWARDS AND FELLOWSHIPS	Department of the Interior Distinguished Service Award, 1968 Member and Officer of several Civic, Professional, and Fraternal Organization	

ALLAN HIRSCH
Assistant Commissioner for Environmental
and Program Planning
Federal Water Quality Administration, GS-1301-17

PERSONAL DATA
Born December 4, 1929; New York, New York
Married; U.S. Public Health Service 1960-64

EDUCATION AND EXECUTIVE TRAINING
Memorial High School; West New York, N.J.; June 1946
Idaho State College; 1946-48
Michigan State University; 1948-51; BS Zoology
Michigan State University; 1951; MS Zoology
University of Michigan; 1958-60; PhD Conservation

EMPLOYMENT HISTORY

3-70 to Present	FWQA; Assistant Commissioner for Environmental and Program Planning; Arlington, Va.; GS-1301-17
10-69 to 3-70	FWQA; Assistant Commissioner for Operations; Arlington, Va.; GS-1301-17
5-67 to 10-69	FWQA; Assistant Commissioner for Program Plans and Development; Washington, D.C.; GS-1301-16
5-64 to 5-67	Program Officer; Public Health Service; Division of Water Supply & Pollution Control; Washington, D.C.; GS-1301-14 & 15
8-60 to 5-64	Chief, Planning Branch; Columbia River Basin Project; Public Health Service; Division of Water Supply & Pollution Control; Portland, Oregon; Commissioned Corps
9-58 to 8-59	Graduate Assistant & Lecturer; University of Michigan; Ann Arbor, Michigan
3-57 to 2-58	Pollution Biologist; New Zealand Marine Dept.; Wellington, New Zealand
5-56 to 2-57	Fulbright Scholar; U.S. Educational Foundation in New Zealand; Wellington, New Zealand
6-51 to 5-56	Aquatic Biologist; Robert A. Taft Sanitary Engineering Center; Cincinnati, Ohio; Commissioned Corps

HONORS, AWARDS AND FELLOWSHIPS
Sigma Xi, Phi Kappa Phi, Phi Beta Kappa
Department of the Interior Meritorious Service Award, 1967
Department of the Interior Distinguished Service Award, 1968
Numerous Scientific Publications in Professional Journals
Recognition from private and Government organizations for Outstanding Professional Achievements

MURRAY STEIN
Assistant Commissioner for Enforcement
and Standards Compliance
Federal Water Quality Administration, GS-301-16

PERSONAL DATA	Born October 16, 1917; Brooklyn, New York; Married; U.S. Army 1942-46	
EDUCATION AND EXECUTIVE TRAINING	Thomas Jefferson High School; Brooklyn, N.Y.; 1934 City College of New York; 1936-39 George Washington University; 1946-47; AB Economics & History George Washington University Law School; 1947-49; LLB	
EMPLOYMENT HISTORY	5-67 to Present	FWQA; Assistant Commissioner for Enforcement; Arlington, Virginia; GS-301-16
	4-62 to 4-67	FWQA; Assistant Chief, Division of Water Supply and Pollution Control and Chief, Enforcement Branch; Washington, D.C.; GS-301-16
	8-55 to 3-62	PHS & FWQA; Program Advisor; Division of Water Supply and Pollution Control; Washington, D.C.; GS-301-15
	4-49 to 8-55	DHEW; Attorney Advisor, Office of General Counsel; Washington, D.C.; GS-685-12
	3-46 to 4-49	Federal Security Agency; Legal Assistant; Washington, D.C.; P-1
HONORS, AWARDS AND FELLOWSHIPS	Unit Citation for Superior Service District of Columbia Bar Association Member of American Bar Association	

LESTER M. KLASHMAN
Regional Director, Northeast Region
Federal Water Quality Administration, GS-1301-16

PERSONAL DATA	Born February 26, 1915; Cambridge, Massachusetts; Married; U.S. Army 1941-46	
EDUCATION AND EXECUTIVE TRAINING	Cambridge High and Latin School, Cambridge, Mass.; June 1932; Massachusetts Institute of Technology, 1933-37; BS Sanitary Engineering	
EMPLOYMENT HISTORY	6-67 to Present	FWQA; Regional Director, Northeast Region, Boston, Massachusetts, GS-1301-16
	2-56 to 6-67	Regional Program Director, Public Health Service; Denver, Colorado and New York, N.Y.; Commissioned Corps
	2-51 to 2-56	Staff Sanitary Engineer, Public Health Service, Division of Water Pollution Control, Boston, Mass. and Washington, D.C.; Commissioned Corps
HONORS, AWARDS AND FELLOWSHIPS	Department of the Interior Distinguished Service Award Scientific Papers Published in Professional Journals	

FRANK R. BLAISDELL

Acting Regional Director, Middle Atlantic Region
Federal Water Quality Administration, GS-1301-15

PERSONAL DATA	Born July 9, 1912; Bangor, Maine; Married; U.S. Army 1941-45, 1951-52	
EDUCATION AND EXECUTIVE TRAINING	Bangor High School, Bangor, Maine; June 1929 University of Maine; 1930-35; BS Civil Engineering Harvard University; 1939-40; MS Sanitary Engineering	
EMPLOYMENT HISTORY	12-68 to Present	FWQA; Deputy & Acting Regional Director, Middle Atlantic Region, Charlottesville, Virginia, GS-1301-15
	1-60 to 12-68	FWQA & PHS; Regional Construction Grants Program Director; Middle Atlantic Region; Charlottesville, Virginia; GS-801-14 & 15
	2-57 to 1-60	Public Health Engineer; Public Health Service, Division of Water Supply and' Pollution Control; Charlottesville, Virginia; GS-819-13
	10-47 to 2-57	Senior Sanitary Engineer; North Carolina State Board of Health; Raleigh, North Carolina
HONORS, AWARDS AND FELLOWSHIPS	Unit Citation for Superior Service, 1959	

JOHN R. THOMAN
Regional Director, Southeast Region
Federal Water Quality Administration, GS-1301-16

PERSONAL DATA	Born August 11, 1920; Columbus, Ohio; Married U.S. Public Health Service 1944-52	
EDUCATION AND EXECUTIVE TRAINING	Aquinas High School; Columbus,Ohio; June 1938 Case Institute of Technology; 1938-42; BS Sanitary Engineering	
EMPLOYMENT HISTORY	11-67 to Present	FWQA; Regional Director; Southeast Region; Atlanta, Georgia; GS-1301-16
	9-63 to 11-67	Public Health Service; FWQA; Director, Southeast Water Laboratory; Athens, Georgia; Commissioned Corps
	7-59 to 9-63	PHS, FWQA; Regional Program Director, Division of Water Supply & Pollution Control; Atlanta, Georgia
	1-57 to 7-59	PHS, FWQA; Assistant Chief, Division of Water Supply & Pollution Control, Washington, D.C.
	11-51 to 3-57	U.S. Operations Mission to Ethiopia; Addis Ababa, Ethiopia; Chief Sanitary Engineer
	1-51 to 11-51	PHS; Division of International Health; Sanitary Engineer; Washington, D.C.
	11-46 to 1-51	PHS; Sanitary Engineer; Cincinnati, Ohio; Yazoo City, Mississippi; Chicago, Illinois
HONORS, AWARDS AND FELLOWSHIPS	Who's Who in Engineering Who's Who in the South and Southeast President's Award, Case Institute of Technology Tau Beta Phi, Theta Tau Honorary Fraternities	

EARL N. KARI
Regional Director, Ohio Basin Region
Federal Water Quality Administration, GS-1301-16

PERSONAL DATA	Born December 18, 1934; Aberdeen, Washington; Married	
EDUCATION AND EXECUTIVE TRAINING	Ocosta High School; Westport, Washington; June 1952 College of Puget Sound; 1952-54 University of Washington; 1954-57; BS Civil Engineering Oregon State University; 1962-63; MS Sanitary Engineering	
EMPLOYMENT HISTORY	5-70 to Present	FWQA; Regional Director, Ohio Basin Region; Cincinnati, Ohio; GS-1301-16
	3-68 to 5-70	FWQA; Physical Science Administrator, Technical Programs Director; Northwest Region; Office of the Regional Director; Portland, Oregon; GS-1301-15
	5-62 to 3-68	PHS & FWQA; Supervisory Sanitary Engineer; Northwest Region; Portland, Oregon; GS-819-12 to 14
	3-60 to 5-62	PHS; Civil Engineer; Northwest Region; Portland, Oregon; GS-810-9 to 11
	8-59 to 3-60	Oregon State Fish Commission; Portland, Oregon
	11-57 to 8-5	Oregon State Sanitary Authority; Portland, Oregon
HONORS, AWARDS AND FELLOWSHIPS	Awarded a Quality Increase, 1965 Member American Society of Civil Engineers Member Sewage and Industrial Wastes Association	

FRANCIS T. MAYO
Regional Director, Great Lakes Region
Federal Water Quality Administration, GS-1301-16

PERSONAL DATA		Born June 16, 1924; Brooklyn, New York; Married; U.S. Army 1943-46
EDUCATION AND EXECUTIVE TRAINING		Brooklyn Technical High School, Brooklyn, N.Y.; June 1942 University of Utah; 1947-50; BS Civil Engineering
EMPLOYMENT HISTORY	2-70 to Present	FWQA; Regional Director; Great Lakes Region; Chicago, Illinois; GS-1301-16
	9-68 to 2-70	FWQA; Director, Division of Planning and Interagency Programs, Washington, D.C.; GS-1301-15
	2-68 to 9-68	FWQA; Sanitary Engineer; Enforcement Program; Southwest Region; San Francisco, California; GS-819-14
	8-66 to 2-68	FWQA; Supervisory Sanitary Engineer; Enforcement Program; Southwest Region; San Francisco, California; GS-819-13
	7-58 to 8-66	Chief, Water Resource Division; Utah State Engineer's Office; Salt Lake City, Utah
	8-52 to 7-58	Staff Engineer; Utah State Engineer's Office; Salt Lake City, Utah
	12-50 to 8-52	Hydraulic Engineer; Water Resource Division; U.S. Geological Survey; Salt Lake City, Utah; GS-810-5 & 7
HONORS, AWARDS AND FELLOWSHIPS		Tau Beta Pi, Engineering Scholastic Fraternity Chi Epsilon, Civil Engineering Scholastic Fraternity Honors Graduate - University of Utah

JOHN M. RADEMACHER
Regional Director, Missouri Basin Region
Federal Water Quality Administration, GS-1301-16

PERSONAL DATA
Born September 21, 1924; Hammond, Indiana
Married; U.S. Army 1943-46

EDUCATION AND EXECUTIVE TRAINING
Hammond High School, Hammond, Indiana; June 1942
University of Utah; 1943-44
Purdue University; 1946-49; BS Civil Engineering
Northwestern University; 1960-61; MS Sanitary Engineering

EMPLOYMENT HISTORY

12-68 to Present	FWQA; Regional Director; Missouri Basin Region; Kansas City, Missouri; GS-1301-16
5-67 to 12-68	FWQA; Chief, Technical Services Division; Washington, D.C., GS-819-16
10-66 to 5-67	FWQA; Supervisory Sanitary Engineer; Technical Services Division; Washington, D.C.; GS-819-15
7-66 to 10-66	FWQA; Supervisory Sanitary Engineer; Colorado River Project; Denver, Colorado, GS-819-15
6-61 to 7-66	Commissioned Officer; Enforcement Program; Public Health Service; Division of Water Supply & Pollution Control; Denver, Colorado and Chicago, Illinois
9-60 to 7-61	Graduate Student, Northwestern University
6-57 to 9-60	Commissioned Officer; Water Supply Consultant; Public Health Service, Division of Water Supply and Pollution Control; Chicago, Illinois
11-56 to 6-57	Staff Engineer; Construction Grants Program; Public Health Service; Div. of Water Supply & Pollution Control; Chicago, Illinois
4-51 to 10-56	Sales Representative; Wallace & Tiernan, Inc.; Promotion of Water & Sewage Works, Indianapolis, In .
6-49 to 4-51	Assistant Engineer; Indiana State Board of Health; Indianapolis, Indiana

HONORS, AWARDS AND FELLOWSHIPS
Chi Epsilon, Civil Engineering Honorary Society
Member of numerous Professional Organizations
Articles published in several Scientific and Professional Journals

RICHARD A. VANDERHOOF
Regional Director, South Central Region
Federal Water Quality Administration, GS-1301-16

PERSONAL DATA	Born March 30, 1917; Toledo, Ohio; Married U.S. Marine Corps 1941-45	
EDUCATION AND EXECUTIVE TRAINING	Libbey High School; Toledo, Ohio; June 1935 Case Institute of Technology; 1935-39; BS Civil Engineering Salmon P. Chase Law School; 1946-50; LLB	
EMPLOYMENT HISTORY	4-70 to Present	FWQA; Regional Director, South Central Region; Dallas, Texas; GS-1301-16
	5-67 to 4-70	FWQA; Regional Director, Ohio Basin Region; Cincinnati, Ohio; GS-1301-16
	1-63 to 5-67	Project Director; Ohio River Basin Project; Public Health Service; Division of Water Supply & Pollution Control; Cincinnati, Ohio; GS-819-15
	9-56 to 1-63	Supervisory Public Health Engineer; Public Health Service; Division of Water Supply and Pollution Control; Cincinnati, Ohio; GS-819-12, 13 & 14
	9-54 to 9-56	Civil Engineer; U.S. Army Corps of Engineers; Ohio River Division; Cincinnati, Ohio; GS-810-11
	3-53 to 9-54	Vice President; Doebeli & Vanderhoof, General Contractors; Cincinnati, Ohio
	12-50 to 3-53	Public Health Engineer; Public Health Service; Bureau of State Services; Cincinnati, Ohio; GS-819-9 & 11
	3-47 to 3-50	Engineer; Alfred Lefever & Associates; Hydraulic Design; Cincinnati, Ohio
	5-46 to 1-47	Hydraulic Engineer, U.S. Army Corps of Engineers; Cincinnati District; Cincinnati, Ohio; P-2
	1-46 to 5-46	Hydrologist; Department of Public Works; State of Ohio; Toledo, Ohio
HONORS, AWARDS AND FELLOWSHIPS	Ohio State Bar Association Member of American Society for Civil Engineers	

PAUL DEFALCO
Regional Director, Southwest Region
Federal Water Quality Administration, GS-1301-16

PERSONAL DATA	Born May 3, 1924; New York, New York; Married U.S. Army 1943-46	
EDUCATION AND EXECUTIVE TRAINING	Newtown High School; Elmhurst, New York; June 1941 Queens College; 1941-48; BS Chemistry New York University; 1951-53; MS Sanitary Science New York University; 1954-59; Public Administration General Administrative Conferences, Brookings Institution; 1970	
EMPLOYMENT HISTORY	6-68 to Present	FWQA; Regional Director, Southwest Region; San Francisco, California; GS-1301-16
	11-64 to 6-68	PHS & FWQA; Project Director; Bureau of State Services; Metuchen, New Jersey; GS-1301-15
	9-61 to 11-64	PHS & FWQA; Water Pollution Project Director; New York, New York; GS-1301-14
	7-56 to 9-61	PHS; Chemist (General); Bureau of State Services; New York, New York; GS-1320-11, 12, & 13
	1948 to 1956	Interstate Sanitation Commission; Senior Sanitary Engineer; Senior Chemist; Water Pollution Control Agency; New York, N.Y.
HONORS, AWARDS AND FELLOWSHIPS	Department of the Interior Distinguished Service Award, 1970 Outstanding Performance Rating and Sustained Superior Performance Award, 1967 Member Numerous Professional Societies	

JAMES L. AGEE
Regional Director, Northwest Region
Federal Water Quality Administration, GS-1301-16

PERSONAL DATA	Born December 30, 1926; McMinnville, Oregon; Married; U.S. Navy 1944-46	
EDUCATION AND EXECUTIVE TRAINING	Graduated High School; June 1947 Vanport Extension Center; 1947-49 Oregon State College; 1949-51; BS Civil Engineering Harvard University; 1955-56; MS Civil Engineering "The Residential Program in Executive Education" - Federal Executive Institute; Charlottesville, Virginia; 1969	
EMPLOYMENT HISTORY	8-68 to Present	FWQA; Regional Director, Northwest Region; Portland, Oregon; GS-1301-16
	8-67 to 8-68	FWQA; Director, Pacific Northwest Water Center; Corvallis, Oregon; GS-1301-15
	12-66 to 8-68	FWQA; Director, Water Quality Standards Activity; Washington, D.C.; GS-1301-15
	9-66 to 12-66	FWQA; Program Analyst; Washington, D.C.; GS-345-14
	8-64 to 9-66	FWQA; Supervisory Sanitary Engineer; Portland, Oregon; GS-819-14
	11-60 to 8-64	FWQA; Division of Water Supply and Pollution Control; Civil Engineer; Portland, Oregon; GS-810-12 & 13
	6-51 to 11-60	Oregon State Board of Health; Public Health Engineer; Portland, Oregon
HONORS, AWARDS AND FELLOWSHIPS	Department of the Interior Meritorious Service Award, 1967 Department of the Interior Distinguished Service Award, 1968 Member of numerous Professional Societies	

ALFRED F. BARTSCH
Director, Pacific Northwest Water Center
Federal Water Quality Administration, GS-1301-16

PERSONAL DATA

Born November 30, 1913; Kaukauna, Wisconsin;
Married; U.S. Army, 1942-44

EDUCATION AND EXECUTIVE TRAINING

Kaukauna High School; Kaukauna, Wisconsin; June 1932
University of Minnesota; 1932-36; BA Biology
University of Wisconsin; 1936-39; PhD Biology

EMPLOYMENT HISTORY

12-69 to Present	FWQA; Director, Pacific Northwest Center; Corvallis, Oregon; GS-1301-16
2-63 to 12-69	PHS & FWQA; Director of Research; Research Physical Science Administrator; Director, Pacific Northwest Center; Corvallis, Oregon; GS-1301-15
9-58 to 2-63	Assistant Chief, Research Branch; Deputy Chief, Research Branch; Public Health Service; Robert A. Taft Sanitary Engineering Center; Cincinnati, Ohio; GS-1301-14 & 15
10-50 to 9-58	Biologist; Public Health Service; Division of Sanitary Engineering Services; Cincinnati, Ohio and Washington, D.C.; GS-401-14
2-49 to 10-50	Biologist; Public Health Service; Division of Water Pollution Control; Portland, Oregon
6-45 to 1-49	Senior Biologist; Committee on Water Pollution; State of Water Pollution; Madison, Wisconsin

HONORS, AWARDS AND FELLOWSHIPS

Thomas F. Andrews Prize (for undergraduate research), University of Minnesota, 1935
Gus A. Radebaugh Award - Central States Sewage and Industrial Wastes Association, 1948
American Men of Science
Who's Who in the Midwest
Sigma Xi Honorary Scientific Society
Phi Sigma Honorary Scientific Society
Gamma Alpha Honorary Scientific Society
Department of the Interior Meritorious Service Award

DAVID W. DUTTWEILER
Director, Southeast Water Research Center
Federal Water Quality Administration, GS-1301-15

PERSONAL DATA	Born September 15, 1927; Buffalo, New York; Married; U.S. Army 1949-68	
EDUCATION AND EXECUTIVE TRAINING	Kensington High School; Buffalo, New York; June 1944 University of Michigan; 1944-48; BS Civil Engineering Johns Hopkins University; 1956-57; 1960-62; MS, PhD Sanitary Engineering	
EMPLOYMENT HISTORY	3-69 to Present	FWQA; Director, Southeast Water Research Center; Athens, Georgia; GS-1301-15
	1-68 to 3-69	U.S. Army; Lt. Col.; Sanitary Engineer Instructor; U.S. Army Medical Field Service School; San Antonio, Texas
	1-67 to 1-68	U.S. Army; Lt. Col.; Sanitary Engineer Consultant; Office of the Surgeon, HQ. U.S. Army Vietnam
	1-65 to 6-66	U.S. Army; Major & Lt. Col; Chief Sanitary Engineering Research Section, U.S. Army Medical Research and Development Command, Washington, D.C.
	10-62 to 1-65	U.S. Army; Major; Chief, Department of Sanitary Engineering; Walter Reed Army Institute of Research; Washington, D.C.
	6-57 to 9-60	U.S. Army; Captain; Chief,Sanitary Engineering Branch; U.S. Army Environmental Hygiene Agency; Edgewood, Maryland
	10-55 to 8-56	U.S. Army; Captain; Industrial Hygiene Engineer; U.S. Army Europe Medical Laboratory; Lundstuhl, Germany
	4-49 to 10-55	U.S. Army; Pvt. to Captain; Sanitary Engineer Instructor; various locations
HONORS, AWARDS AND FELLOWSHIPS	Sigma Xi - Honorary Fraternity Member of Numerous Professional Societies and Organizations Author of Numerous Scientific Publications in Professional Journals	

WILLIAM C. GALEGAR
Director, Robert S. Kerr Water Center
Federal Water Quality Administration, GS-1301-15

PERSONAL DATA	Born April 27, 1924; Avant, Oklahoma; Married U.S. Army 1943-45	
EDUCATION AND EXECUTIVE TRAINING	Avant High School; Avant, Oklahoma; May 1942 Oklahoma State University; 1942-43 and 1946-49; BS Chemical Engineering Oklahoma University; 1952-53; MS Chemical Engineering East Texas State Teachers College	
EMPLOYMENT HISTORY	4-70 to Present	FWQA; Director, Robert S. Kerr Water Center; Ada, Oklahoma; GS-1301-15
	6-67 to 4-70	FWQA; Regional Director, South Central Region; Dallas, Texas; GS-1301-16
	7-66 to 6-67	FWQA; Robert S. Kerr Water Research Center; Laboratory Director; Ada, Oklahoma; Commissioned Corps
	3-66 to 7-66	FWQA; Senior Sanitary Engineer; Office of Federal Activities Cooperation; Washington, D.C.; Commissioned Corps
	10-64 to 7-66	FWQA; Deputy Regional Program Director; Senior Sanitary Engineer; Dallas, Texas; Commissioned Corps
	3-63 to 10-64	PHS & FWQA; Director, Water Quality Activities; Senior Sanitary Engineer; Dallas, Texas; Commissioned Corps
	8-60 to 3-63	PHS; Deputy Project Director; Sanitary Engineer; Dallas, Texas; Commissioned Corps
	1949 to 1960	Oklahoma State Department of Health; Junior Engineer to Principal Engineer; Oklahoma City; Oklahoma
HONORS, AWARDS AND FELLOWSHIPS	Author of numerous Scientific and Professional Articles and Reports	

RICHARD W. LATIMER
Director, Alaska Water Center
Federal Water Quality Administration, GS-1301-14

PERSONAL DATA	Born July 20, 1932; Salt Lake City, Utah Married; U.S. Air Force 1956-59 and 1962	
EDUCATION AND EXECUTIVE TRAINING	East High School; Salt Lake City, Utah; June 1949 University of Utah; 1949-59; BS Geological Engineering, 1955 University of Washington; 1966-67	
EMPLOYMENT HISTORY	1-69 to Present	FWQA; Director, Alaska Water Center; College, Alaska; GS-1301-13 & 14
	3-68 to 1-69	FWQA; R & D Program Specialist; Portland, Oregon; GS-801-13
	9-66 to 3-68	Bureau of Reclamation; Conservation Work Program Planner and Civil Engineer; Sacramento, California & Seattle, Washington
	3-60 to 8-66	Bureau of Reclamation; Weber Basin Project Supervisory Construction Engineer; GS-801-7 to 12
HONORS, AWARDS AND FELLOWSHIPS	NIPA Career Education Fellowship, Graduate School of Public Affairs	

FRANCIS M. MIDDLETON

Director, Ohio Basin Water Research Center
Federal Water Quality Administration, GS-1301-16

PERSONAL DATA

Born March 28, 1912; Wilmington, Ohio
Married; U.S. Public Health Service 1945-52

EDUCATION AND EXECUTIVE TRAINING

Wilmington High School, Wilmington, Ohio; June 1930
Wilmington College; 1930-34; BS Chemistry
Wilmington College; 1930-34; BS Education
University of Michigan; 1948-49; M.P.H.

EMPLOYMENT HISTORY

9-68 to Present	FWQA; Director, Ohio Basin Water Research Center; Cincinnati, Ohio; GS-1301-16
1-67 to 9-68	FWQA; Director of Research; Cincinnati Water Research Laboratory, Cincinnati, Ohio; GS-1301.1-15
6-60 to 1-67	FWQA; PHS; Chief, Advanced Waste Treatment Research Activity; Cincinnati, Ohio; Commissioned Corps
6-49 to 6-60	PHS; Chief, Organic Contaminants Unit; Cincinnati Water Research Laboratory; Cincinnati, Ohio; Commissioned Corps
2-39 to 9-48	PHS; Cincinnati Water Research Laboratory and other field laboratories; Commissioned Corps

HONORS, AWARDS AND FELLOWSHIPS

Sigma Xi
Bartow Award, American Chemical Society, 1955
American Water Works Assoc. Award, 1958
DHEW Meritorious Service Award, 1957
Commissioned Corps, U.S. Public Health Service Meritorious Service Award, 1966
Arthur Sidney Bedell Award, 1967
Author of numerous articles and papers in professional publications

DONALD I. MOUNT
Director, National Fresh Water Quality Laboratory
Federal Water Quality Administration, GS-1301-16

PERSONAL DATA	Born September 20, 1931; Miamisburg, Ohio; Married; U.S. Army 1953-55	
EDUCATION AND EXECUTIVE TRAINING	Miamisburg High School; Miamisburg, Ohio; May 1949 Ohio State University; 1949-60; BS Agriculture (cum laude), 1953; MS Zoology, 1957; PhD Biology, 1960	
EMPLOYMENT HISTORY	8-67 to Present	FWQA; National Fresh Water Quality Laboratory; Duluth, Minn.; GS-401-14 & 15
	7-67 to 8-67	FWQA; Supervisory Research Aquatic Biologist; Newton, Ohio; GS-401-14
	5-64 to 6-67	FWQA; Chief, Aquatic Biology Activities; Cincinnati, Ohio; GS-482-13
	9-60 to 5-64	FWQA; Fisheries Research Biologist; Cincinnati, Ohio; GS-482-11 & 12
HONORS, AWARDS AND FELLOWSHIPS	Sigmi Xi, Phi Eta Sigma - Honorary Fraternities Civil Servant of the Year - Federal Business Association of Cincinnati, 1965 DHEW Meritorious Service Award, 1964 Unit Citation for Superior Service, 1965 Sustained Superior Performance Award, 1964 Fellow Ohio Academy of Science, 1963 Member of numerous professional societies Author of numerous scientific articles and papers in professional publications	

CLARENCE M. TARZWELL

Director, National Marine Water Quality Laboratory
Federal Water Quality Administration, GS-1301-16

PERSONAL DATA

Born September 29, 1907; Deckerville, Michigan;
Married; USPHS Commissioned Corps Reserve 1943-46;
USPHS Commissioned Corps Regular 1948-52

EDUCATION AND EXECUTIVE TRAINING

Deckerville High School; 1925
Eastern Michigan University; 1925-29
University of Michigan; 1929-30; BA Biology;
MS, PhD, Aquatic Biology & Fisheries; 1932 & 1936

EMPLOYMENT HISTORY

7-67 to Present	FWQA; Director, National Marine Water Quality Laboratory; Narragansett, Rhode Island; GS-1301-16
6-65 to 7-67	Scientist Director; U.S. Public Health Service; Kingston, Rhode Island; Commissioned Corps
10-48 to 6-65	Scientist Director; U.S. Public Health Service; Cincinnati, Ohio; Commissioned Corps
4-44 to 10-48	Chief, Biology Branch; U.S. Public Health Service; Savannah, Georgia; Commissioned Corps
12-43 to 4-44	Assistant Sanitarian; U.S. Public Health Service; Atlanta, Georgia; Commissioned Corps
3-38 to 12-43	Assistant Aquatic Biologist; Tennessee Valley Authority; Decatur, Alabama

HONORS, AWARDS AND

National Honorary Scholastic and Scientific Societies

Phi Beta Kappa	Scholastic
Phi Kappa Phi	Scholastic
Sigma Xi	Scientific
Phi Sigma	Biological
Pi Kappa Delta	Forensic
Kappa Delta Pi	Educational

Honors

- U.S. Public Health Service Meritorious Service Medal, 1964
- Aldo Leopold Medal, Wildlife Society, 1963
- American Motors Professional Conservationist Award, 1962
- Conservationist of the Year, State of Ohio, 1961
- Who's Who in America, 1964-65

PRESIDENT'S WATER POLLUTION CONTROL ADVISORY BOARD

Background of Board and Legislative History

The President's Water Pollution Control Advisory Board is a statutory body, established under Section 9 of the Federal Water Pollution Control Act of 1956. There are nine members, selected by the President, who serve three years each. The Chairman is the Secretary of the Interior or his designee, and the Secretary of Health, Education, and Welfare is an ex officio member.

The mission given to the Board by law is to "advise, consult with, and make recommendations to the Secretary (of the Interior) on matters of policy relating to the activities and functions of the Secretary under this (Federal Water Pollution Control) Act." Under this authority, the Board regularly examines all phases of the national water pollution problem and from time to time holds public meetings to hear the views of individual citizens, government at its various levels, and private agencies and groups.

Three of the appointive terms expire each June 30 or at such time thereafter as successive appointments become effective. No member may succeed himself within one year of the date his term ends. The members of the Board who are not officers or employees of the United States, while attending conferences or meetings of the Board or while otherwise serving at the request of the Secretary, receive compensation not to exceed $50.00 per day and are allowed travel expenses, including per diem in lieu of subsistence, while away from their homes or regular places of business.

The Advisory Board holds four to six meetings a year. Usually two of these are held in Washington, D. C. for the purpose of reviewing clean water plans, policy, and progress with the Secretary of the Interior and the staff of the Federal Water Quality Administration. The other meetings are held in various regions of the country at the call of the Chairman, or at behest of individual Board members or a State governor who feels that a particular water problem should have the Board's attention.

Duties of the Chairman, Water Pollution Control Advisory Board

The Chairman of the Water Pollution Control Advisory Board is the Secretary of the Interior or his designee. He is responsible for plannine, coordinating, supporting, and finalizing the Board's public meetings; developing agenda; insuring that proper procedures and protocol are followed; and interpreting the views and recommendations of the Board. He is also responsible for negotiating with State and local Governments and organizations regarding the scope, issues, availability of interested parties to be heard, availability of municipal, private, and industrial locations for on-site inspection by the Board, the requisite lead time for public notice to insure effective nondiscriminatory notice and opportunity to be heard, and the itinerary and agenda proposed by various interest groups.

Duties of the Executive Secretary, Water Pollution Control Advisory Board

The Executive Secretary is a Civil Service appointee and maintains offices in the Department of the Interior, Washington, D. C. He serves as Assistant to the Chairman and functions as the focal point for Board activities, inquiries, petitions, Expressions of Interest from Governments, legislatures, and public and private groups. He plans Board meetings, develops agenda, recruits speakers, and performs liaison between the Secretary and Board members when the Board is not in session. Also, he polls the Board regarding individual positions, negotiates compromises in order to prepare position papers or other documents on current matters of national interest, and meets with new Board members and assists retiring members with regard to all administrative details concerned with their appointments.

Significant Actions and Reports Since March 1969

On May 27, 1969, the President's Water Pollution Control Advisory Board held its first meeting under Assistant Secretary Carl L. Klein as Chairman and Gordon E. Kerr as Executive Secretary. This was an Executive Session to brief the Board members and to discuss present water pollution problems. Future plans were discussed at this meeting.

Because of the long delay in the appointment of three new members to the Board, the next meeting was not held until January 1970. On January 11 through January 15, the Board met in Houston, Texas, at the invitation of Governor Preston Smith. The meeting received national attention through the news media and national sports publications. Attention was focused for the first time on the fact that virus in surface waters are very dangerous to the health of our citizens and that new methods of testing have been discovered. This meeting also triggered a series of events that have started a clean-up of the Galveston Bay beaches, a new and stricter policy for enforcement of the pollution laws of Texas, including the heavily polluted Houston Ship Channel. The meeting was also partly responsible for passage of a $28,000,000 bond issue in Texas.

On March 2 - 3, 1970, the Board met in Washington, D. C., holding an Executive Session. This was a briefing session on current problems and legislation. During this meeting, the Board attended a one and a half day Lake Restoration Workshop sponsored by the Federal Water Pollution Control Administration--now the Federal Water Quality Administration.

On April 29 - 30, 1970, the Board met in New Orleans and Baton Rouge, Louisiana. A tour of the large industrial and highly polluted lower Mississippi River was made. The public meeting was held in New Orleans and was attended by several hundred persons. The results indicate a better understanding between local and Federal Governments as well as a stricter enforcement of the present laws and regulations.

On May 1 - 3, 1970, the Board met in the Virgin Islands. This was a follow-up of a meeting held there in 1966. This was a public meeting at the invitation of Governor Melvin Evans, with a large attendance. The Board also made a tour of the problem areas.

On September 15 - 16, 1970, the Board held a public meeting in Newark, New Jersey, at the invitation of Governor William Cahill. The first day consisted of a tour of one of the most polluted rivers in the Nation, the Passaic. The public meeting was held the following day and was attended by several hundred persons.

On November 18 - 20, 1970, the Board met at Manteo, North Carolina. This meeting consisted of a fly-over by courtesy of the Coast Guard of the Outer Banks area and over the Norfolk industrial complex. An automobile tour of the Coast Guard Station and beaches was made at Cape Hatteras. A briefing by the Coast Guard officials was held there.

Another briefing was held at the National Park Service Fort Raleigh headquarters near Manteo. On November 29, an Executive Session was held. The report of this meeting has not been completed.

In all the public meetings held, great interest has been shown by the citizens, officials, and especially the news media. Several resolutions adopted by the Board making recommendations to the Secretary of the Interior have been made either law or regulation. The Board receives many requests for information on water pollution from college and high school students. Also, current publications, proposed legislation and important information is mailed to the Board each week. The reports of the Board are sent to all Chairmen of Committees and Subcommittees dealing with water pollution control legislation. Copies of the reports are enclosed.

Plans for Future Action

Future actions of the Board were discussed at the last meeting and it was suggested that a close relationship be maintained with the Administrator of the Environmental Protection Agency. It was also agreed that the Board would continue to hold a minimum of four meetings a year as prescribed by law.

Present Members and Terms of Office

A. Chairman - vacant. Previously occupied by Assistant Secretary for Water Quality and Research (Carl L. Klein)

B. Executive Secretary - Mr. Gordon E. Kerr, Career civil servant 6/29/69 to present

C. Ex Officio Member - Honorable Elliot L. Richardson, Secretary of Health, Education and Welfare

D. Member of Board - Dr. Melbourne R. Carriker - 12/28/69 to 6/30/72

E. Member of Board - Mr. Louis S. Clapper - 12/4/68 to 6/30/71

F. Member of Board - Mr. William D. Farr - 7/1/70 to 6/30/73

G. Member of Board - Mr. Ray W. Fergusen - 7/1/70 to 6/30/73

H. Member of Board - Dr. Wallace W. Harvey - 12/28/69 to 6/30/72

I. Member of Board - Mr. Ralph W. Kittle - 12/4/68 to 6/30/71

J. Member of Board - Mr. Stuart M. Long - 12/4/68 to 6/30/71

K. Member of Board - Mr. Parker E. Miller - 12/28/69 to 6/30/72

L. Member of Board - Mrs. Florence L. Rome - 7/1/70 to 6/30/73

Biographies

One page biographies of each member (except Ex Officio Member) are enclosed.

GORDON E. KERR
Executive Secretary
The President's Water Pollution Control Advisory Board

PERSONAL DATA

Born February 13, 1912; Brookport, Illinois
U.S. Army 1944-46, S/Sgt.

EDUCATION AND EXECUTIVE TRAINING

High School

EMPLOYMENT HISTORY

6-69 to Present	Executive Secretary, President's Water Pollution Control Advisory Board
7-64 to 1-65	Executive Secretary, Illinois Water Pollution Commission
1-50 to 1-65	State Senator, Illinois
9-31 to 1-66	Retail Merchant

HONORS, AWARDS AND FELLOWSHIPS

Post Commander, American Legion, at the present time and has served two previous terms.

Charter member, Six-County Shawnee Hills Association (Shawnee National Forest). President of the Association two years - 1967 & 1968.

Chairman, Illinois Conservation Committee (Senate) for six years - 1960 to 1966.

Member, Illinois Agriculture Committee for 10 years.

Chairman, Illinois Outdoor Recreation Commission for 6 years 1960 to 1966.

Director (since 1942) and Vice President (since 1964 to the present time) of the Brookport, Illinois, National Bank.

MELBOURNE R. CARRIKER
Consultant
Federal Water Quality Administration
Water Pollution Control Advisory Board
Appointed 12-28-69

PERSONAL DATA	Born February 25, 1915; Santa Marta, Colombia (South America); U.S. Naval Reserve, Ensign Lt. (jg) 1943-45, Line and Communications Officer and later Executive Officer on PC 780 in North Pacific area.	
EDUCATION AND EXECUTIVE TRAINING	BSC, 1935-39, Rutgers University PhM, 1939-40, University of Wisconsin PhD, 1940-43, University of Wisconsin	
EMPLOYMENT HISTORY	9-62 to Present	Director, Systematics-Ecology Program; Marine Biological Laboratory; Woods Hole, Massachusetts
	2-60 to 8-62	Supervisory Fishery Research Biologist, GS-13
	8-54 to 1-60	Associate Professor of Zoology, Department of Zoology; University of North Carolina at Chapel Hill
HONORS, AWARDS AND FELLOWSHIPS	American Association for the Advancement of Science: Fellow, 1960 American Institute of Biological Sciences: Member of committees American Malacological Union American Society of Limnology and Oceanography: Member of various committees Atlantic Estuarine Research Society Ecological Society of America International Oceanographic Foundation (Miami, Florida): Trustee 1964 National Shellfisheries Association Society of Systematic Zoology: Councillor 1967-1968 Adjunct Professor of Zoology, University of Rhode Island, October 1955	

LOUIS S. CLAPPER
Consultant
Federal Water Quality Administration
Water Pollution Control Advisory Board
Appointed 12-4-68

PERSONAL DATA

Born November 10, 1916; St. Louis, Missouri; Married 47 months active duty, USN, WWII, including duty on USS Honolulu (8 Battle Stars, Unit Citation), USNR, Lt. (Ret.)

EDUCATION AND EXECUTIVE TRAINING

University of Missouri, Bachelor of Journalism, 1938

EMPLOYMENT HISTORY

1958 to Present	Editor "Washington Report", National Wildlife Magazine; Editor Conservation Report & Conservation News; Assistant to the Director
1949 to 1958	Public Relations Officer and Assistant Director, Tennesse Game and Fish Commission
1946 to 1949	Editor and Co-Publisher, Donnelson (Tennessee) Diary
1938 to 1941	Sportswriter, Kansas City Journal

HONORS, AWARDS AND FELLOWSHIPS

Honorary Life Member, American Association for Conservation Information

AACI Award of Merit, 1957; National Association of Conservation Education and Publicity, Special Award of Merit, 1955

WILLIAM D. FARR

Consultant
Federal Water Quality Administration
Water Pollution Control Advisory Board
Appointed 7-1-70

PERSONAL DATA	Born May 26, 1910; Greeley, Colorado; Married
EDUCATION AND EXECUTIVE TRAINING	University of Wisconsin
EMPLOYMENT HISTORY	President, Farr Farms Company Board Chairman, Affiliated Bankshares of Colorado, Inc. Board Chairman, Greeley National Bank Director, Mountain States Telephone Company
HONORS, AWARDS AND FELLOWSHIPS	American National Cattlemen's Association, current president Northern Colorado Conservancy District, on directorate

RAY W. FERGUSON
Consultant
Federal Water Quality Administration
Water Pollution Control Advisory Board
Appointed 7-1-70

PERSONAL DATA	Born November 13, 1921; Oswatime, Kansas; Married Joined Navy December 1, 1941, 8 years active duty as Naval Aviator, total of 28 years Reserve duty. Present rank Commander, serving as Commanding Officer of a Naval Reserve Officers School	
EDUCATION AND EXECUTIVE TRAINING	A.A., 1941, Chaffey College Teacher's Credential, Adult Division, University of California	
EMPLOYMENT HISTORY	1967 to Present	Member, California Water Commission, by appointment of Governor Reagon. Municipal Water District, as a Director
	1956 to 1963	Metropolitain Water District of Southern California, as a director
	1954 to 1962	Chino Basin Municipal Water District, as a director
	Realtor, Ferguson-Caldwell & Caldwell	
HONORS, AWARDS AND FELLOWSHIPS	Member National Reclaimation Association American Water Works Association Colorado River Waters Users Association Past member, California Republician State Central Committee	

WALLACE W. HARVEY JR.
Consultant
Federal Water Quality Administration
Water Pollution Control Advisory Board
Appointed 12-28-69

PERSONAL DATA	Born May 2, 1923; Greensboro, North Carolina; Married U.S. Army 1943-46
EDUCATION AND EXECUTIVE TRAINING	B.S., Chemistry, Wake Forest College M.D. Duke University
EMPLOYMENT HISTORY	1956 to Present — General practice of medicine in Manteo, North Carolina Member, Board of Managers, Manteo Branch, East Carolina Bank
HONORS, AWARDS AND FELLOWSHIPS	Member, Richardson Foundation Leadership Selection Board Prepared Briefs and Presentations before Congressional & Senate Committees, including: Organ Inlet, Hatters Inlet, Stumpy Point, Avon Harbor, Manteo Airport Past Mayor of Manteo, North Carolina Vice-Chairman of Dare County, N.C. Board of County Commissioners

RALPH W. KITTLE
Consultant
Federal Water Quality Administration
Water Pollution Control Advisory Board
Appointed 12-4-68

PERSONAL DATA	Born July 19, 1920; Ringgold, Georgia; Married U.S. Air Force 1942-45, 1st Lt.
EDUCATION AND EXECUTIVE TRAINING	Mercer University, 1937-39 University of Chattanooga, 1939-41 Chattanooga College of Law, 1941-42 University of Virginia-Law School, 1945-48
EMPLOYMENT HISTORY	I-P, New York 1954 to date - Legal Department, Industrial Relations, Personnel, Government Relations, Vice President
	Five Years with law firm - Davis Polk Wardwell Sunderland & Kiendl - New York
	Counsel to Senate Labor Committee
	Temporary State Commission on Water Resources Planning State of New York
	Paper Industry Participant in National Conference on Air Pollution - Washington, D.C.
	Industry Participant - National Water Quality Criteria Conference Norman, Oklahoma
	Advisor to various Congressional Committees on Legislative Policy and Drafting
HONORS, AWARDS AND FELLOWSHIPS	New York Southern Society
	Wings Club
	National Avaiation Club
	Air Force Assn. (Manhattan Sqdn. - Commander, N.Y. State Wing Officer)
	Keswick Country Club and Keswick Hunt Club
	Greater New York Urban League
	New York Urban Coalition
	Virginia Society (Executive Council)

STUART M. LONG
Consultant
Federal Water Quality Administration
Water Pollution Control Advisory Board
Appointed 12-4-68

PERSONAL DATA	Born November 15, 1913; Portales, New Mexico; Married U.S. Marine Corps Reserve 1942-45
EDUCATION AND EXECUTIVE TRAINING	BJ, 1940, University of Texas, Austin, Texas
EMPLOYMENT HISTORY	Newspaperman: Editor, Long News Service, Capitol Pressroom, Austin, Texas, correspondent for 18 Texas daily newspapers, Newsweek, New York Times, Washington Post and other publications Editor: Texas Water Report, Texas Pollution Report, Austin Report, Texas Finance Report and Austin Insurance Report, all specialized reports dealing with the fields indicated, each published weekly.
HONORS, AWARDS AND FELLOWSHIPS	Member and State president, Sigma Delta Chi, professional journalistic society Member, American Legion, Headliners Club, Texas Press

PARKER E. MILLER
Consultant
Federal Water Quality Administration
Water Pollution Control Advisory Board
Appointed 12-28-69

PERSONAL DATA	Born April 3, 1923; Ashland, Ohio; Married; U.S. Army 1942-45, 1st Lt.
EDUCATION AND EXECUTIVE TRAINING	Florida Military Academy Florida Southern College New York Institute of Finance
EMPLOYMENT HISTORY	Rancher, citrus grower, land developer and investments
HONORS, AWARDS AND FELLOWSHIPS	American Forrestry Association National Audobon Society International Oceanographic Foundation Rainbow River Association

FLORENCE L. ROME
Consultant
Federal Water Quality Administration
Water Pollution Control Advisory Board
Appointed 7-1-70

PERSONAL DATA

Born April 19, 1918; Merchantville, New Jersey; Married

EDUCATION AND EXECUTIVE TRAINING

Hudson River State Hospital School of Nursing; Poughkeepsie New York

New York University, B.S., (Cum Laude) in Public Health Nursing, 1945

EMPLOYMENT HISTORY

1949 to 1951	School Nurse, Leyden Township High School, Franklin Park, Illinois
1942 to 1946	Executive Secretary, New York Tuberculosis & Health Association, Staten Island Branch, Staten Island, New York
1941 to 1942	Public Health Nurse, Department of Health, Montclair, New Jersey
1939 to 1941	Staff nurse, Bellevue Hospital, New York City
1938 to 1939	Staff nurse, Hudson River State Hospital School of Nursing

HONORS, AWARDS AND FELLOWSHIPS

Board of Directors, League of Women Voters of Illinois as Water Resources Chairman

Joint Technical Advisory Committee on Ordinances Proposed by the Metropolitan Sanitary District of Greater Chicago-only "public" member

Board of Directors, Lake Michigan Inter-League Group. This organization is composed of local Leagues in the four states around Lake Michigan and supports unified state action to control pollution in Lake Michigan

Steering Committee member, Lake Michigan Today and Tomorrow, a seminar on land and water uses sponsored by the League of Women Voters Education Fund under a grant from the FWPCA

IX. RESOURCES

The budget figures contained in this section do not reflect the proposed increases that are currently under review in EPA and with the Budget Task Force. The proposed budget submission included herein is now under internal FWQA, EPA and OMB review. This is executive privileged information which should not be discussed outside the Agency until the President announces his '72 budget.

Division of Financial Management
October 23, 1970
Revised October 27, 1970

DEPARTMENT OF THE INTERIOR
Federal Water Quality Administration
Budget Authority
(dollars in thousands)

	FY 1970		FY 1971		FY 1972		Increase or Decrease	
	Pos.	Amount	Pos.	Amount	Pos.	Amount	Pos.	Amount
Pollution Control Operations and Research								
Research, development and demonstration	553	$37,496	673	$60,027	824	$57,954	+151	-$2,073
Grants	...	16,498	...	25,334	...	25,834	...	+500
Contracts	...	8,552	...	14,550	...	14,247	...	-303
Direct operations	553	12,446	673	20,143	824	17,873	+151	-2,270
Planning, assistance and training	1,289	39,441	1,623	49,291	1,884	62,178	+261	+12,887
a. Comprehensive basin planning	(257)	(7,110)	(274)	(9,854)	(345)	(15,484)	(+71)	(+5,630)
1. Grants	...	1,782	...	2,900	...	7,000	...	+4,100
2. Federal planning and studies	257	5,328	274	6,954	345	8,484	+71	+1,530
b. Controlling pollution from Federal activities	(55)	(1,058)	(142)	(1,815)	(258)	(3,976)	(+116)	(+2,161)
c. Technical support and services	(527)	(10,402)	(633)	(12,539)	(672)	(14,396)	(+39)	(+1,857)
1. Technical support	358	6,323	444	8,137	452	9,463	+8	+1,326
2. Pollution surveillance	169	4,079	189	4,402	220	4,933	+31	+531
d. Program grants and construction grants administration	(373)	(14,652)	(486)	(16,519)	(486)	(16,967)	...	(+448)
1. State and interstate agency program grants	...	10,000	...	10,000	...	10,000	...	...
2. State and interstate agency program grants administration	15	352	20	410	20	430	...	+20
3. Construction grants administration	358	4,300	466	6,109	466	6,537	...	+428

	FY 1970		FY 1971		FY 1972		Increase or Decrease	
	Pos.	Amount	Pos.	Amount	Pos.	Amount	Pos.	Amount
e. Training	(77)	(6,219)	(88)	(8,564)	(123)	(11,355)	(+35)	(+2,791)
1. Grants								
a. Projects	...	4,020	...	6,003	...	6,743	...	+740
b. Fellowships & scholarships	...	600	...	600	...	1,244	...	+644
2. Federal operations	77	1,599	88	1,961	123	3,368	+35	+1,407
Graduate training	[9]	[208]	[9]	[208]	[9]	[208]	...	...
Enforcement	205	4,503	272	5,599	290	6,485	+18	+886
Enforcement	182	3,974	249	5,075	267	5,961	+18	+886
Water quality standards compliance	23	529	23	524	23	524	...	...
Executive direction and support	369	5,686	405	6,183	435	6,983	+30	+800
a. Executive direction	46	741	48	813	55	1,122	+7	+309
b. Administrative support	180	2,622	205	2,924	219	3,234	+14	+310
c. Regional direction	113	1,734	126	1,867	135	2,048	+9	+181
d. Public information	30	589	26	579	26	579	...	...
Total, Pollution Control Operations and Research	2,416	87,126	2,973	121,100	3,433	133,600	+460	+12,500
Buildings and Facilities	...	...	...	...	...	...	...	...
Construction Grants for Waste Treatment Works	...	800,000	...	1,000,000	...	1,000,000	...	...
Total, Federal Water Quality Administration	2,416	887,126	2,973	1,121,100	3,433	1,133,600	+460	+12,500

a/ FY 1970 appropriation included an additional $258,050 which was transferred to GSA for space.

b/ FY 1971 appropriation included an additional $17,759 which was transferred to GSA for space.

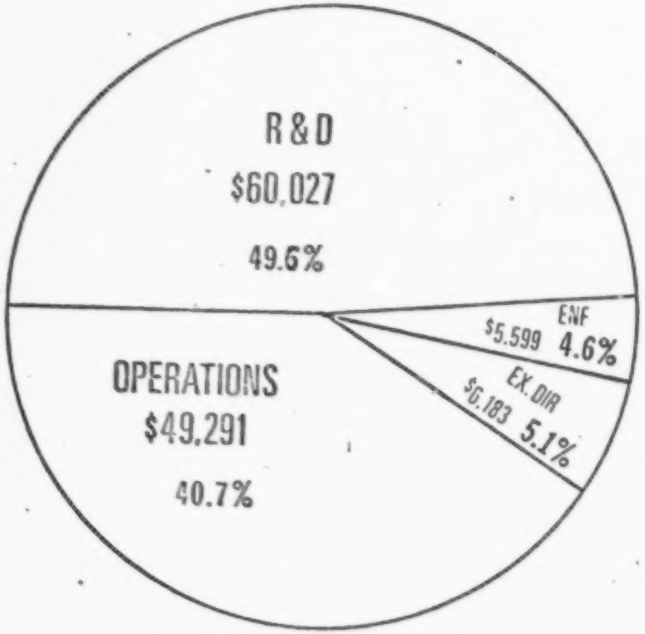
Division of Financial Management
October 14, 1970

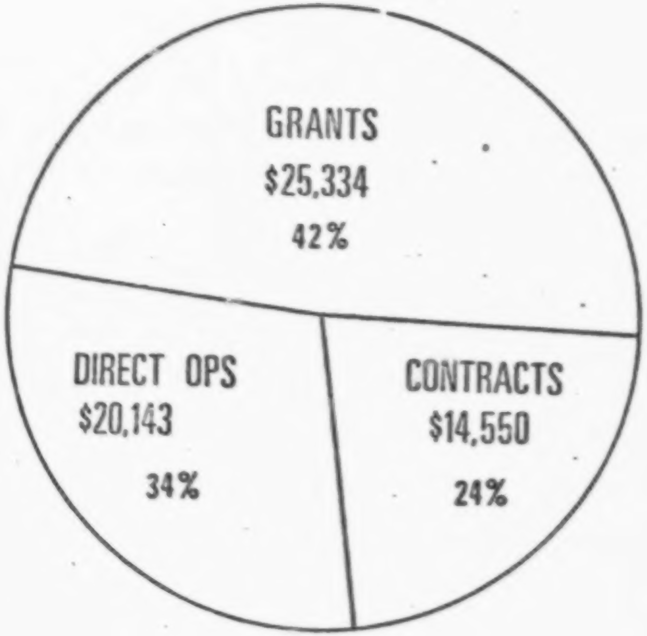
DEPARTMENT OF THE INTERIOR
Federal Water Quality Administration
Budget Authority--Obligations--Outlays
1970-1971-1972
(dollars in thousands)

	Budget Authority			Obligations			Outlays		
	1970	1971	1972	1970	1971	1972	1970	1971	1972
Pollution Control Operations and Research..............	$87,126	$121,100	$133,600	$94,605	$125,804	$133,600	$84,086	$110,127	$120,000
Buildings and Facilities....	...	...	...	1,067	3,717	1,300	1,551	1,643	3,000
Construction Grants for Waste Treatment Works.....	800,000	1,000,000	1,000,000	424,999	1,000,000	1,200,000	176,377	533,410	702,000
Advances and Reimbursements.	...	...	...	677	986	904	318	-105	320
Cooperative Funds...........	...	...	...	...	...	...	2	...	...
Total..................	887,126	1,121,100	1,133,600	521,348	1,130,507	1,335,804	262,334	645,075	825,320

1971

DISRIBUTION OF FINANCIAL RESOURCES





121.1 MILLION

Budget Management Branch
November 19, 1970

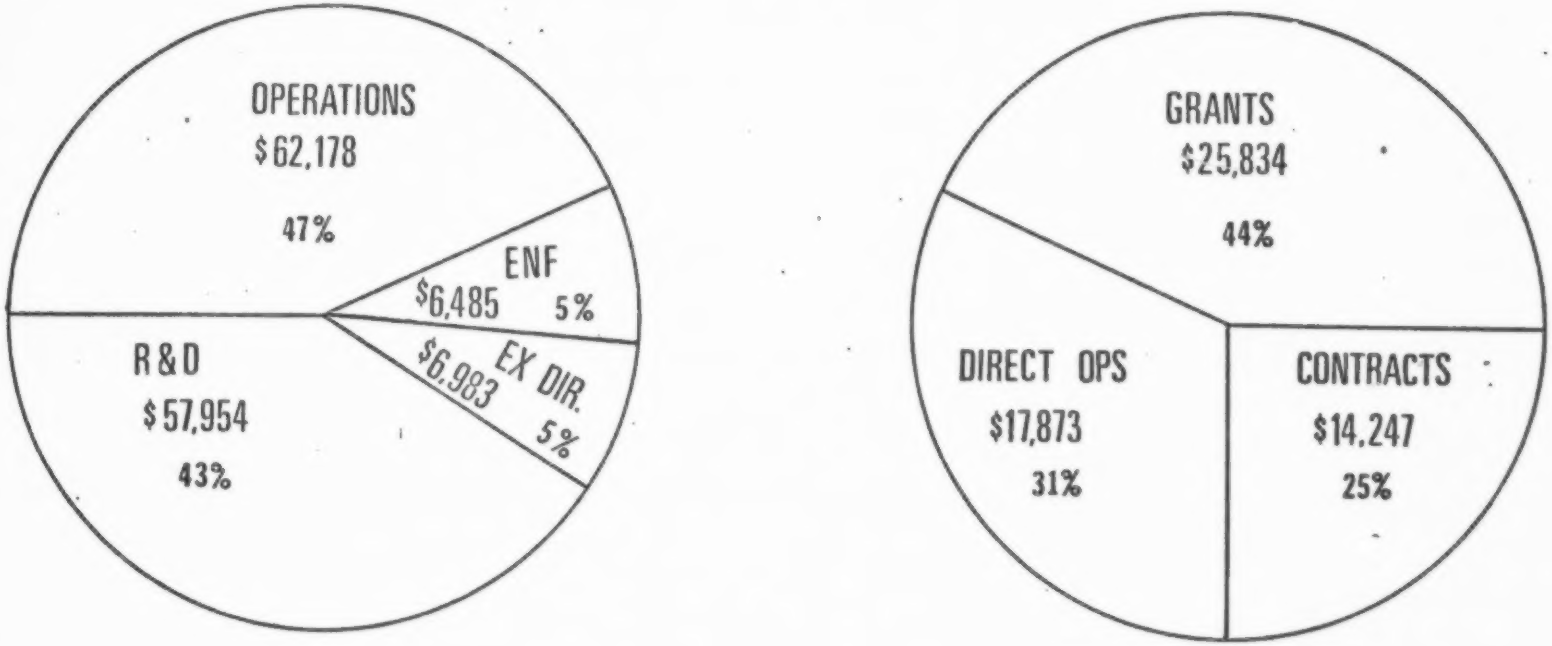
Revised 1971 Budget Estimate to Reflect Proposed 1971
Supplemental for Waste Discharge Permit Program
(in thousands of dollars)

	1971 as Initially Reflected in 1972 Budget Request		Proposed 1971 Supplemental		Revised 1971 Estimate	
	Pos.	Amount	Pos.	Amount	Pos.	Amount
Research, development and demonstration	673	$60,027	...	...	673	$60,027
Grants..................................	...	25,334	...	...	...	25,334
Contracts................................	...	14,550	...	...	...	14,550
Direct operations........................	673	20,143	...	...	673	20,143
Planning, assistance and training	1,623	49,291	135	1,600	1,758	50,891
a. Comprehensive basin planning........	(274)	(9,854)	...	...	(274)	(9,854)
1. Grants..........................	...	2,900	...	...	...	2,900
2. Federal planning and studies....	274	6,954	...	...	274	6,954
b. Control of pollution from Federal activities.......................	(142)	(1,815)	(96)	(750)	(238)	(2,565)
c. Technical support and services......	(633)	(12,539)	(39)	(850)	(672)	(13,389)
1. Technical support...............	444	8,137	8	500	452	8,637
2. Pollution surveillance..........	189	4,402	31	350	220	4,752
d. Program grants and construction grants administration.............	(486)	(16,519)	...	...	(486)	(16,519)
1. State and interstate program grants.........................	...	10,000	...	...	...	10,000
2. State and interstate program grants administration.........	20	410	...	...	20	410
3. Construction grants administration................	466	6,109	...	...	466	6,109
e. Training............................	(88)	(8,564)	...	...	(88)	(8,564)
1. Grants and contracts						
a. Projects....................	...	6,003	...	...	...	6,003
b. Fellowships and scholarships..............	...	600	...	...	...	600
2. Federal operations	88	1,961	...	...	88	1,961
[Graduate training]	[9]	[208]			[9]	[208]

	1971 as Initially Reflected in 1972 Budget Request		Proposed 1971 Supplemental		Revised 1971 Estimate	
	Pos.	Amount	Pos.	Amount	Pos.	Amount
Enforcement	272	5,599	...	...	272	5,599
Enforcement	249	5,075	...	...	249	5,075
Standards compliance	23	524	...	...	23	524
Executive direction and support	405	6,183	...	...	405	6,183
Executive direction	48	813	...	...	48	813
Administrative support	205	2,924	...	...	205	2,924
Regional direction	126	1,867	...	...	126	1,867
Public information	26	579	...	...	26	579
Total, Pollution Control Operations and Research	2,973	121,100	135	1,600	3,108	122,700
Construction Grants for Waste Treatment Works	...	1,000,000	...	...	...	1,000,000
Total, Federal Water Quality Administration	2,973	1,121,100	135	1,600	3,108	1,122,700

1972 REQUEST

DISTRIBUTION OF FINANCIAL RESOURCES



133.6 MILLION

Budget Management Branch
November 19, 1970

Revised 1972 Request to Reflect Waste Discharge Permit Program Supplemental Requested in 1971
(in thousands of dollars)

	Initial 1972 Request		Revised 1972 Request	
	Pos.	Amount	Pos.	Amount
Research, development and demonstration	824	$57,954	824	$57,954
Grants	...	25,834	...	25,834
Contracts	...	14,247	...	14,247
Direct operations	824	17,873	824	17,873
Planning, assistance and training	1,884	62,178	1,980	63,878
a. Comprehensive basin planning	(345)	(15,484)	(345)	(15,484)
1. Grants	...	7,000	...	7,000
2. Federal planning and studies	345	8,484	345	8,484
b. Control of pollution from Federal activities.	(258)	(3,976)	(354)	(5,578)
c. Technical support and services	(672)	(14,396)	(672)	(14,494)
1. Technical support	452	9,463	452	9,461
2. Pollution surveillance	220	4,933	220	5,033
d. Program grants and construction grants administration	(486)	(16,967)	(486)	(16,967)
1. State and interstate program grants	...	10,000	...	10,000
2. State and interstate program grants administration	20	430	20	430
3. Construction grants administration	466	6,537	466	6,537
e. Training	(123)	(11,355)	(123)	(11,355)
1. Grants and contracts				
a. Projects	...	6,743	...	6,743
b. Fellowships and scholarships	...	1,244	...	1,244
2. Federal operations	123	3,368	123	3,368
[Graduate training]	[9]	[208]	[9]	[208]

	Initial 1972 Request		Revised 1972 Request	
	Pos.	Amount	Pos.	Amount
Enforcement	290	6,485	290	6,485
Enforcement	267	5,961	267	5,961
Standards compliance	23	524	23	524
Executive direction and support	435	6,983	435	6,983
Executive direction	55	1,122	55	1,122
Administrative support	219	3,234	219	3,234
Regional direction	135	2,048	135	2,048
Public information	26	579	26	579
Total, Pollution Control Operations and Research	3,433	133,600	3,529	135,300
Construction Grants for Waste Treatment Works	...	1,000,000	...	1,000,000
Total, Federal Water Quality Administration	3,433	1,133,600	3,529	1,135,300

FEDERAL WATER QUALITY ADMINISTRATION
Employment as of 10/31/70
by Activity and Location

	Permanent	All Other
Research and development	492	126
Operations	1,129	194
Enforcement	197	22
Executive direction and support	541	71
Executive direction	377	39
Public information office	43	12
Laboratory direction	121	20
Subtotal	2,359	413
Reimbursements	3	1
International Joint Commission	5	...
Total	2,367	414

FEDERAL WATER QUALITY ADMINISTRATION
Employment as of 10/31/70
by Location and Activity

	Permanent	All Other
Research and development	83	4
Operations	183	46
Enforcement	37	...
Executive direction and support	285	32
Executive direction......................	80	2
Office of administration.................	183	25
Public information office................	22	5
International Joint Commission	1	...
Reimbursements	1	...
Total.........................	590	82

FEDERAL WATER QUALITY ADMINISTRATION
Employment as of 10/31/70
by Activity and Location

	Permanent	All Other
Research and development	62	23
Boston, Massachusetts	4	...
Narragansett, Rhode Island	38	19
Edison, New Jersey	11	3
Bears Bluff, South Carolina	9	1
Operations	114	17
Boston, Massachusetts	25	...
Edison, New Jersey	68	10
Needham, Massachusetts	20	6
Philadelphia, Pennsylvania	1	1
Enforcement	21	5
Boston, Massachusetts	3	...
Needham, Massachusetts	13	5
Edison, New Jersey	5	...
Regional direction and support	34	...
Regional direction	(11)	...
Boston, Massachusetts	11	...
Public information office	(2)	...
Boston, Massachusetts	2	...
Laboratory direction	(21)	...
Philadelphia, Pennsylvania	2	...
Edison, New Jersey	19	...
Total	231	45

FEDERAL WATER QUALITY ADMINISTRATION
Employment as of 10/31/70
by Activity and Location

	Permanent	All Other
Research and development	3	...
Charlottesville, Virginia	3	...
Operations	97	24
Charlottesville, Virginia	78	18
Annapolis, Maryland	19	6
Enforcement	4	1
Charlottesville, Virginia	4	1
Regional direction and support	15	1
Regional direction	(12)	...
Charlottesville, Virginia	11	...
Annapolis, Maryland	1	...
Public information office	(3)	(1)
Charlottesville, Vriginia	3	1
Total	119	26

FEDERAL WATER QUALITY ADMINISTRATION
Employment as of 10/31/70
by Activity and Location

	Permanent	All Other
Research and Development	41	18
Atlanta, Georgia	2	1
Athens, Georgia	39	17
Operations	106	20
Atlanta, Georgia	51	4
Montgomery, Alabama	1	1
Chattanooga, Tennessee	1	...
Orlando, Florida	1	...
Puerto Rico	2	1
Athens, Georgia	43	12
Fort Lauderdale, Florida	7	2
Enforcement	5	1
Atlanta, Georgia	2	1
Athens, Georgia	3	...
Regional Direction and Support	29	12
Regional Direction	(13)	(3)
Atlanta, Georgia	13	3
Public Information Office	(2)	(2)
Atlanta, Georgia	2	2
Laboratory Direction	(14)	(7)
Athens, Georgia	14	7
Total	181	51

FEDERAL WATER QUALITY ADMINISTRATION
Employment as of 10/31/70
by Activity and Location

	Permanent	All Other
Research and development	131	16
Cincinnati, Ohio	3	...
Cincinnati Laboratory	89	10
Lebanon, Ohio	11	...
Norton, West Virginia	5	4
Blue Plains, Washington, D. C.	17	2
Pomona, California	4	...
Manassas, Virginia	1	...
Piscataway, Maryland	1	...
Operations	166	40
Cincinnati, Ohio	36	6
Wheeling, West Virginia	28	7
Evansville, Indiana	23	11
National Training Center	16	5
Analytical Quality Control Laboratory	46	9
Radiological and Industrial Water Investigation Section	17	2
Enforcement	44	11
Cincinnati, Ohio	5	2
Wheeling, West Virginia	5	...
Radiological and Industrial Water Investigation Section	34	9
Regional direction and support	73	7
Regional direction	(17)	(1)
Cincinnati, Ohio	17	1
Public information office	(4)	...
Cincinnati, Ohio	4	...
Laboratory direction	(52)	(6)
Cincinnati Laboratory	52	6
Reimbursements	2	...
PHS	1	...
Army Natrick	1	...
Total	416	74

FEDERAL WATER QUALITY ADMINISTRATION
Employment as of 10/31/70
by Activity and Location

	Permanent	All Other
Research and development	70	24
Chicago, Illinois	4	1
Duluth, Minnesota	50	15
Bayport, Minnesota	2	...
Newtown, Ohio	10	6
Corvallis, Oregon	4	2
Operations	132	13
Chicago, Illinois	61	1
Chicago Laboratory	25	4
Cleveland, Ohio	17	5
Detroit, Michigan	12	1
Minneapolis, Minnesota	6	...
Rochester, New York	11	2
Enforcement	23	1
Chicago, Illinois	6	1
Chicago Laboratory	5	...
Detroit, Michigan	3	...
Cleveland, Ohio	5	...
Minneapolis, Minnesota	3	...
Rochester, New York	1	...
Regional direction and support	13	3
Regional direction	(11)	(1)
Chicago, Illinois	11	1
Public information office	(2)	(2)
Chicago, Illinois	2	2
International Joint Commission	4	...
Rochester, New York	2	...
Detroit, Michigan	2	...
Total	242	41

FEDERAL WATER QUALITY ADMINISTRATION
Employment as of 10/31/70
by Activity and Location

	Permanent	All Other
Research and development	3	...
Kansas City, Missouri	3	...
Operations	74	9
Kansas City, Missouri	73	9
Lincoln, Nebraska	1	...
Enforcement	8	...
Kansas City, Missouri	8	...
Regional direction and support	14	1
Regional direction	(12)	(1)
Kansas City, Missouri	12	1
Public information office	(2)	...
Kansas City, Missouri	2	...
Total	99	10

FEDERAL WATER QUALITY ADMINISTRATION
Employment as of 10/31/70
by Activity and Location

	Permanent	All Other
Research and development	41	7
Ada, Oklahoma..........................	35	4
Dallas, Texas..........................	3	2
Fresno, California.....................	3	1
Operations	90	13
Dallas, Texas..........................	48	3
Houston, Texas.........................	1	1
Ada, Oklahoma..........................	25	9
Baton Rouge, Louisiana.................	16	...
Enforcement	5	1
Dallas, Texas..........................	5	1
Regional direction and support	29	8
Regional direction.....................	(12)	(3)
Dallas, Texas..........................	12	3
Public information office..............	(2)	...
Dallas, Texas..........................	2	...
Laboratory direction...................	(15)	(5)
Ada, Oklahoma..........................	15	5
Total................	165	29

FEDERAL WATER QUALITY ADMINISTRATION
Employment as of 10/31/70
by Activity and Location

	Permanent	All Other
Research and development	2	1
San Francisco, California............	2	1
Operations	80	5
San Francisco, California............	18	3
Alameda, California..................	43	1
Denver, Colorado.....................	12	...
Honolulu, Hawaii.....................	7	1
Enforcement	43	...
San Francisco, California............	5	...
Alameda, California..................	13	...
Denver, Colorado.....................	1	...
Honolulu, Hawaii.....................	1	...
Division of Field Station, Denver Center............................	23	...
Regional direction and support	16	...
Regional direction...................	(14)	...
San Francisco, California...........	14	...
Public information office............	(2)	...
San Francisco, California...........	2	...
Total..................	141	6

FEDERAL WATER QUALITY ADMINISTRATION
Employment as of 10/31/70
by Activity and Location

	Permanent	All Other
Research and development	56	33
Portland, Oregon....................	3	...
Corvallis, Oregon..................	37	19
College, Alaska....................	10	5
Newport, Oregon....................	2	...
Ely, Minnesota.....................	4	9
Operations	87	7
Portland, Oregon...................	65	5
Anchorage, Alaska..................	7	1
Corvallis, Oregon..................	13	...
College, Alaska....................	2	1
Enforcement	7	2
Portland, Oregon...................	6	2
Anchorage, Alaska..................	1	...
Regional direction and support	33	7
Regional direction.................	(12)	(3)
Portland, Oregon................	12	3
Public information office..........	(2)	(2)
Portland, Oregon................	2	2
Laboratory direction...............	(19)	(2)
Corvallis, Oregon...............	12	2
College, Alaska.................	7	...
Reimbursements	...	1
College, Alaska....................	...	1
Total..................	183	50

Employees By Occupation Group *

Occupational Group	Number of Employees	Percentage Distribution
Engineers	459	17
Biological Science	239	9
Physical Science	378	14
Technical Support	309	11
Wage Board	130	5
Administrative Management[1]	398	15
Clerical	727	27
Other	63	2
Total:	2703	100

[1] Includes general administration, legislative liaison, program planning and budgeting, public information, grants administration and related activities

* As of June 30, 1970

Employees By Pay Categories (General Schedule)

GS Grade	Number of Employees	Percentage Distribution
1	7	Less than 1%
2	52	2
3	133	5
4	256	10
5	314	12
6	164	6
7	197	8
8	26	1
9	177	7
10	7	Less than 1%
11	203	8
12	361	14
13	333	13
14	223	9
15	99	4
16	15	Less than 1%
17	4	Less than 1%
18	1	Less than 1%
Total:	2572	Percent: 100%

General Schedule Percent
of total FWQA paid employment
as of June 30, 1970 95.2%

Same Employees By Pay Categories (Wage Grade)

Wage Grade	Number of Employees		Percentage Distribution
1	2		2
2	7		5
3	29		22
4	7		5
5	12		9
6	5		4
7	2		2
8	5		4
9	9		7
10	29		22
11	15		12
12	7		5
13	0		0
14	0		0
15	1		1
Total:	130	Percent:	100

Wage Grade percent of
Total FWQA paid employment
as of June 30, 1970 4.8%

Same Employees By Pay Categories (Level V)

Category	Number of Employees	Position
Level V	1	Commissioner, FWQA

Minority Employment*

Employees			Percentage
Permanent-Full Time		2465	
Negro	250		10.1
Spanish American	16		.7
Indian	15		.6
Oriental	16		.7
TOTAL ALL MINORITIES	297		12.1

* As of May 31, 1970

Minorities By Grade *

Permanent Full Time Employees	Minority Classification		Grade
2,465	American Indian	2	GS-3
		1	GS-4
		1	GS-5
		2	GS-6
		3	GS-7
		1	GS-9
		3	GS-13
		1	GS-14
		1	GS-15
	Total	15	

Permanent Full Time Employees	Minority Classification		Grade
	Oriental	1	GS-1
		1	GS-3
		2	GS-4
		2	GS-5
		1	GS-6
		1	GS-7
		2	GS-11
		1	GS-12
		4	GS-13
		1	GS-14
	Total	16	

Permanent Full Time Employees	Minority Classification		Grade
	Spanish Surname	3	GS-4
		4	GS-5
		2	GS-7
		4	GS-11
		2	GS-12
		1	GS-13
	Total	16	

* As of May 31, 1970

Permanent Full Time Employees	Minority Classification			Grade
2,465	Negro	3		GS-1
		11		GS-2
		22		GS-3
		29		GS-4
		52		GS-5
		32		GS-6
		28		GS-7
		5		GS-8
		18		GS-9
		1		GS-10
		13		GS-11
		14		GS-12
		5		GS-13
		2		GS-14
		1		GS-15
		1	WB	$6,500 yr*
		8	WB	7,000 yr*
		2	WB	8,000 yr*
		2	WB	9,000 yr*
		1	WB	10,000 yr*
	Total	250		

*The variety of wage broad classifications and hourly pay varients makes it necessary to report in rounded annual income increments.

FWQA Major Facilities

Facility	Location	Size	Personnel	Work Performed
National Marine Water Quality Laboratory	West Kingston, R.I.	15,338	38	Planning and conduct of plankton, fish and in vertegrate studies involving bioassay methods, effects of pollutants, culture methods, basic physiology and ecology studies
Hudson-Delaware Basins Office	Edison, New Jersey	127,588	113	Develops and conducts comprehensive water pollution control programs in assigned area; evaluates water pollu tion control and water resource info mation; conducts training and manpow development programs and research an development programs for the Region.
Southeast Water Laboratory	Athens, Georgia	56,134	103	Fundamental and applied research programs concerning water contaminants characterization research, pollution fate research, and industrial and agricultural pollution control research. Monitors assigned research, training and demonstration grants.
Robert A. Taft Sanitary Engineering Center	Cincinnati, Ohio	158,764	187	Research activities concerning dissolved nutrient removal, ultimate disposal; suspended and colloidal solids removal; sewered wastes; wast water renovation and reuse. Determining pollution control traini needs at all levels of government; develop and conduct short term class to meet FWQA training operations of FWQA laboratories.

Facility	Location	Size	Personnel	Work Performed
National Water Quality Laboratory	Duluth, Minnesota	44,000	53	Development of water quality requirement and methods used to predict effects of pollution discharges; investigation of municipal, industrial, agricultural recreational, and aquatic life water requirements.
Robert S. Kerr Water Research Center	Ada, Oklahoma	50,300	80	Coordinates research in the development of control of waster associated with specific pollution sources; research in water quality control; manpower and training activities; and technical services.
California/Nevada Basins Office	Alemeda, California	18,345	60	Establishment of short and long range basin objectives for water pollution control; directs the implementation of the river basin program.
Pacific Northwest Water Laboratory	Corvallis, Oregon	49,500	7 76	Directs and manages the National Eutrophication Research Program; National Thermal Pollution Research Program; National Coastal Pollution Research Program, and the Waste Treatment Research Technology Program.
Alaska Water Laboratory	College, Alaska	20,000	19	Planning and directing activities including technical, programs and investigations; Federal activities, pollution surveillance; water quality standards; oil pollution and river basin studies; plans, coordinates and conducts FWQA research on cold climates water pollution prevention and control.

GLOSSARY

BENTHIC REGION - The bottom of all waters; the substratum that supports the benthos.

BENTHOS - Bottom-dwelling organisms· the benthos comprise: (1) sessile animals such as the sponges, barnacles, mussels, and oysters, some of the worms, and many attached algae· (2) creeping forms, such as snails and flatworms· and (3) burrowing forms which includes most clams and worms.

BIOCHEMICAL OXYGEN DEMAND (BOD) - The rate at which oxygen is consumed by bacteria in the process of decomposing organic wastes. This is often measured over a five day period.

DISSOLVED OXYGEN (DO) - The concentration of oxygen absorbed into water through plant photosynthesis or from the atmosphere. Sufficient concentrations of dissolved oxygen are essential to the life and function of aquatic organisms.

ECOLOGY- The branch of biology that deals with the mutual relations of living organisms and their environments, and the relations of organisms to each other.

ECOSYSTEM - The functioning together of the biological community and the non-living environment.

EUTROPHICATION - The intentional or unintentional aging of lakes through enrichment with nutrients.

OLIGOTROPHIC WATERS - Waters with a small supply of nutrients· hence, they support little organic production.

PHYTOPLANKTON- Plant microorganisma, such as certain algae, living unattached in the water.

PLANKTON - Organisms of relatively small size, mostly micriscopic, that either have relatively small powers of locomotion or drift in the water subject to the action of waves and currents.

TROPHOGENIC REGION - The superficial layer of a lake in which organic production from mineral substances takes place on the basis of light energy.

ZOOPLANKTON - Animal microorganisms living unattached in water. They include small crustacea, such as daphnia and cyclops, and single-celled animals as protozoa, etc.

CONTINUED

PRIMARY WASTE TREATMENT - Physical processes, such as screening or sedimentation, to remove settleable and flotable solids and from 25 percent to 65 percent of suspended solids.

SECONDARY WASTE TREATMENT - Usually biological processes--such as trickling filtration, activated sludge, or contact stabilization--which reduce the biochemical oxygen demand by 75 percent to 95 percent and remove from 70 percent to 95 percent of suspended solids.

ADVANCED WASTE TREATMENT - Various chemical processes or filtering actions to further reduce nutrient loadings of phosphorous and nitrogen or to "polish" the treated effluent.